ADMINISTRATION REPORTS

OF THE

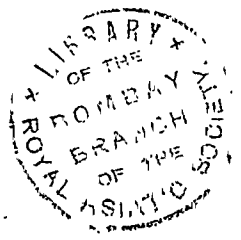
FOREST DEPARTMENT

IN THE

BOMBAY PRESIDENCY,

INCLUDING

SIND,



FOR THE YEAR 1889-90.

Bombay:
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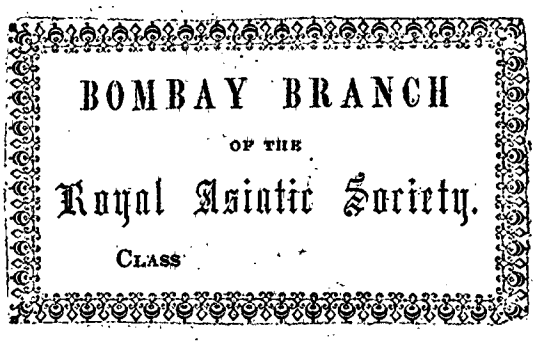

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J. J. K-15

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1891.

SOUTHERN CIRCLE.

No. 3100-A of 1890-91.

From

J. L. L. MacGREGOR, Esquire,
Conservator of Forests, Southern Circle;

To

JOHN NUGENT, Esquire,
Chief Secretary to Government,
Revenue Department, Bombay.

Belgaum, 18th October 1890.

Sir,

I have the honour to submit herewith the Forest Administration Report of the Southern Circle for the year 1889-90, with its subsidiary statements.

I have the honour to be,
Sir,
Your most obedient Servant,
J. L. L. MacGREGOR,
Conservator of Forests, Southern Circle.

Through the Commissioner, Southern Division.

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SOUTHERN CIRCLE.

1889-90.

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CHAPTER I.

AREA AND BOUNDARIES.

The forest-area of the divisions of the Southern Circle during 1889-90 was as follows :—

Collectorate.	Area on the 1st April 1889.				Added during the year.				Excluded or transferred to other Heads.				Area on the 31st March 1890.				Total Forest Area.	
	Reserved.		Protected.		Reserved.		Protected.		Reserved.		Protected.		Reserved.		Protected.			
	Square Miles.	Acres.	Square Miles.	Acres.	Square Miles.	Acres.	Square Miles.	Acres.	Square Miles.	Acres.	Square Miles.	Acres.	Square Miles.	Acres.	Square Miles.	Acres.	Square Miles.	Acres
Kánara	683	446	2,864	631	..	..	..	..	..	..	..	98 11/40	683	446	2,864	532 29/40	3,548	338 29/40
Belgaum	494	419 7/10	196	571 33/40	..	..	..	..	..	..	..	..	494	419 7/10	196	571 33/40	691	351 1/2
Dhárwár	171	410 3/5	260	259	..	..	..	..	..	..	..	..	171	410 3/5	260	259	432	29 3/40
Bijápur	155	75 3/40	..	364	..	..	..	..	..	..	..	..	155	75 3/40	..	364	155	439 7/8
Kolába	293	630 3/4	88	606 1/2	..	..	..	..	..	..	..	..	293	630 3/4	88	606 1/2	382	596 1/4
Ratnágiri	19	600 3/4	..	..	..	152 11/40	..	..	..	1/40	..	..	20	112 1/4	..	..	20	112 1/4
Total ..	1,819	22 3/40	3,411	512 3/40	..	152 11/40	..	..	..	1/40	..	98 1/40	1,819	175 1/40	3,411	413 1/4	5,230	588 3/4

KA'NARA.

2. The change in Kánara is owing to the disforestment of certain lands in the Sirsi and Mundgod sub-divisions.

3. The forest-settlement of 46 villages of Sírsi, 16 of Kumtá and 21 of Honávar, aggregating 138·45 square miles, was sanctioned by Government, but, as the area settled was not notified in the Gazette before the close of the year, it could not be entered in the statement for the year under report.

4. The following area was notified under section 4 of the Forest Act :—

Acres.	Gunthas.
18,774	33 in Honáwar.
1,852	19 in Yellápúr.
23,692	8 in Sírsi.
2,190	11 in Siddápúr.

5. The 33-feet cleared lines dividing the "special" from the "ordinary" reserves in Halliál, aggregating 45 miles 6 furlongs, were completed, in addition to 18 miles and 1 furlong dividing the reserved from the protected forests in Ankólá. The cost per mile averaged Rs. 24·4

6. The whole forest-area of Kánara was notified in 1879, under section 34 of the Forest-Act (the greater part of the area having been gazetted only approximately) ; the lands so notified are being re-notified under section 4 with a view to their being dealt with either under Chapter II, or IV, of the Act. The figures shown in paragraph 4 refer to such lands.

7. The forest-area originally gazetted is 3,514·36 square miles. Of these 930·03 square miles have been finally dealt with. The area which remains to be dealt with is 2,584·33 square miles.

8. During the year, the field-work completed in the Yellápúr, Kumtá and Sírsi sub-divisions, aggregated 299 square miles, and the settlement-officer's proposals are reported to be in course of preparation for submission to Government.

9. Up to the present time the final settlement by Mr. Wingate of 138·16 square miles of forest in Kánara, shows that 41·16 per cent. of that area is reserved, and 58·84 per cent. protected.

BELGAUM AND DHÁRWA'R.

10. The protected forests of these divisions aggregegating 457 square miles and 190 acres were notified under section 4 of the Forest-Act, and Mr. Gray, who was appointed Forest-Settlement-Officer, commenced work on the 1st November, 1889, and inspected the forests of the Belgaum and Parasgad sub-divisions. He has not sent in any report, but the work accomplished during last working-season, up to March 31, amounts to 32,581 acres.

RATNA'GIRI.

11. During the year, final orders were passed by Government on the question of forest-settlement, and it was found undesirable to make any further reservation with the exception of 153 acres of the Rájápúr-sub-division.

12. The expenditure on account of forest-settlement and demarcation during 1889-90, amounts to Rs. 15,770 as shown below :—

	Rs.	Rs.
Not charged against Forests.		
Allowances of the Forest-Settlement-Officer, Kánara ...	1,800	
Salaries and allowances of the Forest-Settlement-Officer, Belgaum-Dhárwár	4,300	
		6,100
Charged to Forests.		
Salaries and travelling allowances of the establishment employed under the Forest-Settlement-Officer, Kánara, and Contingencies	4,250	
Salaries and travelling allowances of the establishment employed under the Forest-Settlement-Officer, Belgaum-Dhárwár, and contingencies	622	
Cost of demarcation...	4,798	
		9,670
Total ...		15,770

13. The work actually effected during the year, which is represented by the above expenditure, comprises :—

299 square miles in Kánara at a cost of Rs. 6,050, or Rs. 20·24 per square mile.
51 square miles in Belgaum at a cost of Rs. 4,922, or Rs. 96·50 per square mile.

350 Total, at a cost of Rs. 31·35 per square mile.

14. Steps have been taken to obtain the information regarding the cost per square mile on account of forest-settlement up to date, and this will be reported to Government later on.

15. The high cost per square mile in Belgaum is ascribed to the fact that Mr. Gray was appointed to a newly-created office which took some time to get into working order. The rate of progress this season will no doubt be much more rapid and compare favourably with the progress made in settlements elsewhere.

16. The areas gazetted under section 4 of the Act, afford no information of the extent of the work accomplished. The settlement-officer publishes from time to time extracts from the lists of forests previously gazetted under section 34, without having examined the forests they refer to. He then, and then only, proceeds to select lands for forest. The preparation of lists for publication under sections 4 and 28 could be accomplished in a few months, but no object could be gained by that, unless the settlement-officer, who is also selection-officer, could complete his selections for the whole area during the following working-season. At last year's rate of progress, it will take eight years to complete the settlement in Kánara. It is important, as pointed out in a recent Resolution of Government, that the settlement of forests in the *supári*-garden-

tracts should be speedily completed, and the wholesale cutting of *ráb* be confined within reasonable limits, but this object cannot be attained anywhere until the forests which supply the *ráb* have been finally-settled. I see no reason why the Divisional Officer of the Southern Division of Kánara should not be deputed to select areas in his division for notification under sections 4 and 28 of the Act, the Assistant-Collectors acting as forest-settlement-officers, in their own districts, for the reserved areas selected by him. It is the work of selection that occupies nearly the whole time of settlement-officers: the judicial work is, comparatively speaking, a mere nothing, and, if the Divisional Officer's proposals for reserved and protected were accepted without revision by the forest-settlement-officer, except when acting in his judicial capacity, the progress of settlement would be much more rapid than it now is. All experience goes to show that excepting rights of way and water, no absolute rights exist in the Southern Circle, and that even those claimed are claimed for the whole village-community, and not singly by individuals: for this reason the claims of an entire village-community can be settled with very little expenditure of time on the part of the settlement-officer.

17. The following table shows the progress made in the settlement of the forests which have been gazetted under section 34 of the Forest-Act:—

Name of Collectorate.	Class of Forests.	At the commencement of the year. Areas under Section 34 in which private rights have not been enquired into, settled, or recorded.		Areas dealt with during the year, and sanctioned by Government.				Area of Reserved Forests alienated under Section 26.		Area of Protected Forests disforested under Government-orders.		At the end of the year. Areas under Section 34, in which private rights have not been enquired into, settled, or recorded.	
				Under Section 19, Chapter II of the Forest Act.		Under Section 28, Chapter IV of the Forest Act.							
Kánara ...	Reserved ...	214	286	...	...	...	...	...	...	...	...	214	286
	Protected ...	2,508	321	56	553	81	380	...	...	...	98	2,369	570
Bijápur ...	Reserved ...	155	76	...	...	...	...	...	...	...	...	155	76
	Protected ...	89	409	...	...	...	...	...	...	...	...	89	409
Kolába ...	Reserved ...	140	259	...	...	...	...	...	...	...	...	140	259
	Protected ...	37	81	...	...	...	...	...	...	...	...	37	81
Total ...	Reserved ...	509	621	...	...	...	...	...	...	...	...	509	621
	Protected ...	2,635	171	56	553	81	380	...	...	...	98	2,496	420

18. The area remaining to be dealt with in Kánara amounts to:—

Square miles.	Acres.		Square miles.	Acres.		Square miles.	Acres.
(214	286	+	2,369	570)	=	2,584	216

	Sq. m.	Acres.		
The area in Belgaum notified under section 4 of the Forest-Act is	196	571		
The area in Dhárwár notified under section 4 of the Forest-Act is	260	259		
Total (*vide* paragraph 10) ...	457	190		
Add—				
Area in Khánápur Táluka of Belgaum, notified under section 4	61	199		
Area in Hubli Táluka of Dhárwár, notified under section 4	6	27		
			524	— 416

19. The forests of Kolába have been finally settled, but the settlement proposals on three of the sub-divisions were pending Government-sanction on the 31st March 1890. The settlement of the Bijápur-forests has also been completed and reported on, but the reports were returned to the Collector during the year, as no maps were sent in with them. Besides the area to which those reports refer, the lands, selected for "fuel and fodder reserves" (referred to in paragraph 11 of the Administration Report for 1888-89), which will have to be dealt with, if the proposals regarding them receive Government-sanction, aggregate 22 square miles 488 acres.

CHAPTER II.

SURVEYS AND WORKING-PLANS.

I.—SURVEYS.

20. The topographical survey, under Colonel Pullan, continued the survey on the 4-and 8-inch scales, and that officer reports that 419·75 square miles at a cost of Rs. 34,054 were completed. This represents a cost per square mile of Rs. 81·2, which is a very favourable rate as compared with the previous year's (Rs. 190).

21. As soon as the remaining forests of Eastern Yellápúr and Sírsi and of Kalghatgi have been surveyed, it will not be necessary to survey any more areas on the larger scale, but it appears to be desirable to complete the whole of the compact and valuable teak-forests comprised in this area on the same scale.

II.—WORKING PLANS.

22. Messrs. Oliver and Bell were engaged in the preparation of working-plans for the teak-forests to be tapped by the proposed tramway, but no working-plan has yet been submitted by them. They complain of the difficulty of obtaining labour and ascribe the slowness of the progress made entirely to that cause. It is unfortunate that they have had to commence work in the most unhealthy tracts in the Circle; but, after every allowance has been made for the undoubted difficulties with which they have had to contend, I am quite at a loss to understand the slowness of the progress made, and shall be extremely disappointed if, by the end of next season, they have not completed working-plans for the whole of the teak-forests of the Northern Division of Kánara east of the Káneri-river.

23. The result of their enumerations shows that 4,108 tons of large teak-timber could be safely exploited annually from the area which now supplies the Halliál-market with timber. An annual yield of 13,511 tons of other species could also be obtained, but it appears doubtful that more than 2,000 tons of the latter could be sold.

24. If the forests of the Gund-group could be conveniently exploited in the direction of Halliál 600 tons more teak could be obtained, but they are so very difficult to get at, being cut off by the Káneri-ravine, that, for the present, at all events, it appears preferable to export the produce by means of the Kálánadi to the Kódibág-depôt, on the coast.

25. No determination has been come to in regard to a railway from the Southern Marátha Railway through the tract, above referred to, which now supplies the Halliál-depôt with timber. Since the close of the year, a Committee appointed to investigate the matter (Government Resolution No. 4751 of 8th July, 1890) has, however, submitted a report to Government in which it recommends that a tramway, to be worked by bullock-power, should be made between Halliál and Shiróli, a distance of 21 miles. With the present available means of transport, it is impossible to get out the sustained yield of teak and the estimated saleable quantity of other timber.

26. A justification of the estimated sustained yield of the forests, which would be tapped by the proposed tram, was submitted to Government with my No. 3958 of 23rd December, 1889, and a working-plan for the whole area will, I trust, be ready before a line could be laid between Halliál and Shiróli. It does not seem to be necessary to defer the construction of the line until a working-plan is made, because we know what the sustained yield is; that all the produce to be exploited for the next forty years must come by the route the tram is to take; that the latter will greatly cheapen exploitation; and that it is improbable that we shall be able to work up to the proposed yield unless a tramway be constructed, or a large number of buffaloes and carts be purchased by Government, an alternative which would not pay nearly as well as a tram.

CHAPTER III.

PROTECTION AND IMPROVEMENT.

ESTABLISHMENT.

27. The only change in the *personnel* occurred in Ratnágiri, where 18 men were added to the establishment at a monthly cost of Rs. 224.

28. Revised proposals for the re-organization and training of subordinate establishments were submitted to Government in October by a Committee which sat at Poona during the rains. The want of trained men and of an increase in the number of executive officers is greatly felt.

BREACHES OF THE LAW.

29. The number of prosecutions disposed of by magistrates is as follows:—

No.	Divisions.	1888-89.			1889-90.			Percentage of failures.	
		Cases in which conviction was obtained.	Cases in which conviction failed.	Total.	Cases in which conviction was obtained.	Cases in which conviction failed.	Total.	1888-89.	1889-90.
1	Northern Division of Kánara.	11	2	13	10	4	14	15	28
2	Central Division of Kánara...	5	3	8	9	3	12	37	25
3	Southern Division of Kánara.	9	9	18	9	13	22	50	59
4	Belgaum	11	1	12	35	7	42	8	16
5	Dhárwár	5	1	6	5	4	9	16	44
6	Kolába	45	9	54	20	4	24	17	16
7	Bijápur	8	3	11	8	2	10	27	20
8	Ratnágiri	4	3	7	5	...	5	42	...
	Total ...	98	31	129	101	37	138	24	26

30. The increase in the number of cases occurs chiefly in Belgaum where it is ascribed to increased efficiency on the part of the subordinates.

31. There is a large increase in the percentage of failures in Dhárwár; for this, the Divisional Officer is unable to furnish conclusive reasons.

32. The cases compounded are shown in the following statement:—

No.	Division.	1888-89.		1889-90.	
		Number of cases commuted.	Amount of fines recovered.	Number of cases commuted.	Amount of fines recovered.
			Rs. a. p.		Rs. a. p.
1	Northern Division of Kánara ...	20	37 9 2	19	102 2 10
2	Central Division of Kánara ...	9	92 9 7	14	135 5 9
3	Southern Division of Kánara ...	109	401 0 0	140	574 0 0
4	Belgaum	62	307 12 11	99	384 14 0
5	Dhárwár	60	148 12 11	27	26 1 0
6	Kolába	194	855 2 3	189	884 12 9
7	Bijápur	89	174 15 3	93	398 2 0
8	Ratnágiri...	56	252 11 3	93	288 2 8
	Total ...	599	2,270 9 4	674	2,793 9 0

33. Increase in the number of cases compounded is met with chiefly in Belgaum, Southern Division of Kánara, and Ratnágiri. In Belgaum the increase is chiefly owing to cases brought on account of the removal of firewood for sale without permits: and in Southern Kánara it is mainly ascribable to cases concerning the unauthorized cutting of *rāb* by rayats in the Siddápur-sub-division.

34. In Ratnágiri the increase is ascribed to increased efficiency since the entertainment of an additional establishment.

35. A statement showing the number of cases compounded or taken into Court is given below :—

No.	Division.	Taken into Court.		Compromised under Section 67.		Total number of Cases.	
		1888-89.	1889-90.	1888-89.	1889-90.	1888-89.	1889-90.
1	Northern Division of Kánara ...	16	11	20	19	36	30
2	Central Division of Kánara ...	13	8	9	15	22	28
3	Southern Division of Kánara ...	55	22	109	140	164	162
4	Belgaum	13	50	62	99	75	149
5	Dhárwár	6	9	60	27	66	36
6	Kolába	58	24	194	189	252	213
7	Bijápur	14	7	89	93	103	103
8	Ratnágiri	7	5	56	93	63	98
	Total ...	182	136	599	675	781	819

36. In paragraph 40 of the administration report for 1888-89, 53 cases were shown to be pending at the close of that year but 37 of these are now reported to have been compounded. If the 16 cases pending at the beginning of the year be added to the 136 of the year under report, the total number as shown in form No. 50, appended, is 152, of which 14 remained undecided at the close of the year.

37. *Civil Suits.*—In Kolába two important suits were decided in favour of Government. In one Ganesh Ramchandra Bedekar claimed Rs 4,569-8-0 for protecting the Chikni forests in Nágothna. The other was a claim to all trees except teak in a Government forest, and was a test-case of great importance.

FOREST-FIRES

38. Were prevalent in the forests not evergreen and not specially-protected.

39. Special measures of protection were adopted for 650,538 acres, of which 79,716 are reported to have been burnt. Fires were most prevalent, in the specially-protected areas, in the Southern and Central Divisions of Kánara. In the Northern Division of Kánara, the protection afforded was, all things considered, extremely good, and reflects great credit on Mr. Talbot, Forest-Ranger Ghosekhán and the officers and men working under them.

40. This is the first year in which special fire-protection on a large scale has been, on the whole, successful in any part of the Southern Circle. The portion protected of the Northern Division of Kánara comprises nearly the whole of the teak-bearing tracts of that Division. Great difficulties had to be contended with. In one day, in the forest near Yermukh in the Gund-group, no less than 14 distinct fires broke out in different parts of the area. In consequence of this determined attempt to fire the jungles, I have applied to Government for permission to close the forest to grazing for a year. The specially-protected area of the Northern Division comprised an area of 299,503 acres, and of this area 54,206 acres, or 18 per cent., are estimated to have been burnt. The special protection in the Central and Southern Divisions was much less satisfactory.

41. Maps showing the fire-lines are prepared every season and carefully scrutinized before being finally approved.

42. The results of fire-protective measures, as reported by the Divisional Officers, are exhibited in the following statement :—

Division.	Area in Square Miles.			Proportion of failures to area attempted.	Cost.		Proportion of area under fire-protection to total area of Reserves.
	Attempted.	Failures.	Protected.		Per Square Mile protected.	Per Acre protected.	
				Percentage	Rs.	Pies.	
Northern Division of Kánara ...	467·97	84·69	383·27	18	16·06	3·9	
Central Division of Kánara ...	135·46	14·88	120·58	10	17·67	4·7	
Southern Division of Kánara ...	131·70	4·48	127·21	3	2·32	·6	
Belgaum	138·47	9·73	128·74	7	11·23	3·1	
Dhárwár	33·51	4·60	28·91	13	16·03	4·1	
Bijápur	72·47	·80	71·69	1	3·16	·9	
Kolába	36·29	5·35	30·94	14	19·87	5·0	
Ratnágiri	·56	...	·56	...	43·16	12·8	
Total in 1889-90...	1,016	125	892	12	12·73	3·8	56
Total in 1888-89...	997	185	812	19	4·33	1·30	55
Increase or Decrease in 1889-90...	+19	—60	+80	—7	+8·40	+2·5	+1

43. I do not feel satisfied as to the accuracy of these returns, and Government will perceive that what I have reported above does not correspond with the divisional statements. Last hot weather I traversed in serveral directions the Northern, Central and Southern Divisions of Kánára in order to be able to judge for myself to what extent protective measures had been successful, and I found that everywhere fire had got into the specially-protected areas of the Central and Southern Divisions, but that fires were rare in protected areas of the Northern Division. It is, no doubt, extremely difficult to estimate the areas burnt, but I fear that the subordinate-officers often purposely furnish wrong returns as they know the great importance that is attached to the protection of the forests from fire, and are afraid of being transferred, or punished, if the reported results of protection are not satisfactory.

44. The system of reporting fires, described in the 111th paragraph of the report on the Northern Circle for 1887-88, has been adopted in the Southern Circle since the receipt of the Government-Resolution on last year's reports.

45. The Government of India have, in their letter to Government, reviewing the reports of the Conservators for 1888-89, contrasted the results of fire-protection in the Northern and Southern Circles very much to the disadvantage of the latter. I cannot account for the great difference in the cost of protecting forests in the two Circles; but it may be partly due to the much larger permament protective establishment of the Northern Circle, to cheapness of labour, and to there being a far smaller proportion of protected forest in that Circle. In the Southern Circle, contiguous patches of reserved and protected occur in most villages and this chess-board arrangement of the two classes over vast areas makes the protection of the reserved areas more expensive than it would be if the classes were more separated.

46. The area which is reported to have escaped fire without the taking of any special measures, amounts to 3,299 square miles, or 65 per cent. of the whole forest-area.

47. The total area of compact evergreen forest is estimated to be 659 square miles.

48. These evergreen forests are situated, for the greater part, on the western slopes of the ghâts of Kánara, and generally escape fire without any measures being taken for their protection.

49. The attempt to eradicate *bakrá*, referred to in the 54th paragraph of last year's report, has not been successful. Mr. Murray reports that fresh *bakrá* is springing up in the old places

GRAZING AND FENCING.

50. The improvement in the returns for grazing under the new regulation, referred to in parargaph 55 of last year's report, regarding the issue of permits to graze cattle, was not quite as large as was expected; still it amounted to Rs. 5,485, of which Rs. 4,197 were realized in the Belgaum Division. It should also be noted that the increased return is in spite of increased closures.

51. The following statement shows the areas closed to grazing during 1888-89 and 1889-90:—

Division.	Area closed.			
	1888-89.		1889-90.	
	Sq. miles.	Acres.	Sq. miles.	Acres.
Northern Division of Kanára	...	...	181	279
Belgaum	19	7	19	7
Dhárwár	58	325	93	142
Bijápur	...	...	10	174
Kolába	6	567	6	567
Total ...	84	259	310	529

52. No. fencing was put up with the exception of a fence round 45 acres in the Gókák-Range.

NATURAL REPRODUCTION.

53. *Northern Division of Kánara.*—The information furnished by the Divisional Officer is meagre, but there can be no doubt that the very successful protection afforded there against fire will have a good effect on natural reproduction by seed.

54. *Central Division of Kánara.*—The Divisional Officer reports that in the Yellápur-sub-division reproduction by seed is on the whole good, and that teak seedlings are plentiful, but that in the rocky tracts bordering the coast, and in the more open and fire-traversed tracts of the Mundgod-Range, reproduction is not good.

55. *Southern Division of Kánara.*—Mr. Woodrow reports that reproduction by seed is bad owing to the prevalence of fires. More effective and extensive operations are required here for the protection from fire of reserved areas.

56. *Belgaum.*—Mr. Murray reports that in the timber-forests of Khánápúr there was good reproduction from seed owing to the entire absence of fire, but that in the more eastern tracts owing to the annual fires, it is almost at a standstill in areas not specially-protected.

57. *Dhárwár.*—Mr. Hight has not repored on the state of natural reproduction by seed in this Division. The jungles are all small and open and depend mostly on coppice and artificial means for their regeneration.

58. *Bijápur.*—Mr. Ryan reports that ním-seedlings are appearing in the neighbourhood of Guledgudd, but that natural reproduction is on the whole very poor in the Bijápúr-District owing to the uncertain and inferior rainfall and the heavy demands on the forests by the surrounding population.

59. The forests generally are so poor that they ought to be closed for a long period, but the demand for firewood does not admit of complete closure. Portions are, however, being selected for closure and some have been already closed.

60. *Kolába-Ratnágiri.*—The Divisional Officer does not refer to the state of natural reproduction by seed. The forests here are mostly coppice, and he reports favourably of the reproduction from stools.

61. *General.*—All officers, except Mr. Ryan (Divisional Officer, Bijápur,) report favourably of reproduction from stools.

62. On the whole, the reports speak more favourably of reproduction by seed during the past season. All that is necessary to ensure natural reproduction in all the most valuable timber forest-tracts is protection from fire and grazing, and considerable progress has been made this year in these respects.

ARTIFICIAL REGENERATION.

63. *Northern Division of Kánara.*—11,500 plants of casuarina were put down in the Kárwár plantations, and a nursery containing 8,000 more was prepared.

64. *Central Division of Kánara.*—In the Mundgód-range, 7 bags of teak-seeds, and 9 bags of seeds of other species, were sown in the Pur, Bachenki, Sanvalli and Márgaddi jungles, and Mr. Haselden reports that the seeds germinated freely and that the seedlings have survived excepting some which were destroyed by fire.

65. In the Kumtá-range 5 bags of teak-seeds and 4 of other species were sown, but only 60 junglewood and 40 teak-seedlings have survived the hot weather. The cost was, however, *nil.*

66. Nine sacks of teak-seeds, 9 of junglewood-seeds and 1 of hardás were collected and sown in nurseries at Katgál and Kuchalnád. Up to the beginning of July 3,000 teak, 185 junglewood and 10 hardás had germinated, and were to be planted out in the forest during the present rainy season.

67. In Ankólá 4 sacks of teak-seeds, 1 of blackwood-seeds and 15 of junglewood-seeds were collected and sown in the jungles near Hattikeri and Rámangóli, and are reported to have germinated freely.

68. In the Yellápúr-range a cart-load of seeds was sown under dying *kárvi*, and, by the first of July, 379 teak, 6 blackwood and 29 junglewood had appeared.

69. 2,088 junglewood-seedlings were planted out from nurseries of which, it is expected, half will survive.

70. *Southern Division of Kánara.*—In the casuarina-plantation of Kásarkód 1,040 plants were attacked by some unknown disease, which is spreading and will, it is feared, kill all the trees in the plantation. Specimens of the diseased trees were sent to the Entomologist at Dehra Dun in December last, but no reply has been received from him, so it is presumed that no cure is known.

71. Mr. Woodrow reports that seeds were collected and sown broad-cast, but that the sowings proved failures, probably owing to suitable sites not having been selected for the purpose.

72. *Belgaum.*—45 acres were fenced and sown broad-cast with seeds of nim, matti and kindali; and Mr. Murray reports that a large number of plants have come up, and survived the hot weather.

Seeds were also collected in the Belgaum and Khánápúr sub-divisions, and nurseries prepared in 11 places in Belgaum, 4 in Khánápúr and 1 in Parasgad.

73. *Dhárwár.*—Mr. Hight reports on the very successful teak-plantation of 125 acres near Kalkundi in the Kalghatgi-sub-division; the whole of it, when he saw it in January, and again in April, was well-stocked with thriving seedlings.

74. About 10 maunds of seed were collected.

75. The system of sowing followed by Mr. Hight is to pick up and loosen the soil in patches and to sow in the patches, and he considers this method more successful than merely sowing broad-cast. In the Dhárwár District the soil in the forests is generally hard or weedy and no doubt broad-cast sowing without previous preparation of the ground for the reception of the seed would

not answer. Mr. Hight gives no particulars as to the area sown in this manner, although he says that the results are not discouraging.

76. *Bijápur.*—Attempts at artificial regeneration in 1889 were not successful on the whole. 14,000 pits were dug in the jungles and sown with seeds, but the sites of such operations were badly chosen owing to absence of shelter, and the plants died of drought.

77. 892 maunds of seeds were collected.

78. *Kolába-Ratnágiri.*—Nothing important in the way of artificial regeneration was effected in this division. 750 casuarinas were planted out at Sáttád.

79. The Divisional Officer reports that the old casuarina plantations in Chiplún and Málvan, aggregating 103 acres, are not flourishing, and no extension of either was carried out. The Dápoli plantation of 119 acres is reported to be very flourishing.

COMMUNICATIONS AND BUILDINGS.

80. A sum of Rs. 5,494 was expended on works under this head: on "Roads and Bridges", Rs. 572; "Buildings", Rs. 4,685; and Other Works, Rs. 237.

81. In the Northern Division of Kánara Forest cart-tracks were repaired (Rs. 43) and a building for the Divisional Office was built at Halliál (Rs. 350).

82. In the Central Division of Kánara the Hittalkargadda-Mágód, and Kannigeri-Udamaki, roads, as well as cart-tracks, were repaired (Rs. 447); two new watch-houses were built (Rs. 550) and a building for a Náká at Bálegúli was purchased from the Postal Department (Rs. 300).

83. In the Southern Division of Kánara the forest road from Manchikeri to the Kátur-Depôt and other tracks were repaired (Rs. 57). A new watch-house was built (Rs. 300) and Rs. 766 were expended in completing the office-quarters of the Divisional Officer.

84. In Belgaum two new watch-houses were built (Rs. 560) and the rest-house at Nágargali was repaired (Rs. 251).

85. In Dhárwár, the Dévikóp rest-house and certain watch-houses were put in repair (Rs. 308).

86. In Ratnágiri the Bándh-road was repaired (Rs. 25).

CHAPTER IV.

YIELD AND WORKING.

87. The following is a summary of the yield of the forests of the several Divisions for 1888-89 and 1889-90 :—

88. *Northern, Central and Southern Divisions of Kánara.*—The large teak exploited during 1889-90 amounted to 247,375 cubic feet against 250,576 cubic feet in 1888-89; the small teak exploited, such as poles and rafters, amounted to 72,640 cubic feet against 80,401 cubic feet. There was a falling off in the quantity brought in to the Halliál-Depôt (which was 95,827 cubic feet against 97,907 cubic feet in 1888-89). The exploitation of timber was restricted for a time in anticipation of an early decision of Government regarding the construction and route of the proposed railway from Gund, which would have greatly cheapened the cost of transport as compared with that of cartage.

89. The out-turn of sleeper-pieces also shows a decrease (16,230 cubic feet in 1889-90, and 46,657 in 1888-89). There is no demand for railway-sleepers now.

90. The large junglewood removed amounted to 322,080 cubic feet against 314,090 cubic feet in the previous year, and the poles, pieces and stakes to

10,146 against 11,805. The quantities extracted in the Central and Southern Divisions of Kánara were larger than those of the previous season, but the yield of the Northern Division was less for the reason given in paragraph 88. For the same reason, the yield of blackwood shows a decrease: it was 8,426 cubic feet in 1889-90 and 18,246 cubic feet in 1888-89. The blackwood poles, pieces, &c., were 531 against 154 cubic feet in 1888-89.

91. The number of bamboos extracted rose from 4,628,641 in 1888-89 to 4,830,535 in 1889-90; and the quantity of myrabollams from 4,356 khandis (worth Rs. 43,658) to 4,651 khandis (worth Rs. 47,966). But the firewood exploited fell from 2,365,466 cubic feet to 1,140,224 cubic feet; and the out-turn of sandalwood from 73 khandis to 57.

92. The increase in the number of bamboos is met with in Halliál of the Northern Division of Kánara, and in Sirsi of the Southern. The bamboo-traffic of the former sub-division will, it is feared, be greatly affected by the two tolls newly opened on the Halliál-Bhágwati, and Halliál-Alnávar, roads. A smaller quantity of firewood was sold for export because a large quantity which remained with the merchants at the close of the previous year lessened the demand.

93. The quantity of charcoal removed measured 5,448 cubic feet against 2,351 cubic feet.

94. *Belgaum.*—The year's yield of the division shows an increase under almost all heads.

95. The large dead teak exploited during 1889-90 amounted to 4,047 cubic feet against none in the previous year. The out-turn of black and junglewood measured 5,447 cubic feet and 14,720 cubic feet respectively, against 351 cubic-feet and 2,040 cubic feet during the previous year. Of teak-poles, branchwood and pieces, there were 23,939 cubic feet, against 21,379 cubic feet; and of black-and junglewood poles and pieces, 240 cubic feet and 14,467 cubic feet, respectively, against 63 cubic feet and 12,797 cubic feet during the previous year.

96. The quantity of running-fuel exploited for the Southern Marátha Railway Company was nearly double that of the previous year; it rose from 1,027,398 to 1,876,051 cubic feet, and the firewood removed for other purposes from 672,350 to 696,350 cubic feet.

The result of cuttings on over 2,000 acres of the forests which supply running fuel for the Southern Marátha Railway show that the original estimate of sustained yield was 35 per cent. under the actual yield; the error is partly due to over-caution in estimating the yield, and partly to a reduction since the estimate was made of the minimum diameter of the fuel-pieces from 4 to 3 inches. The opening of the new station of Devrái will enable us to utilize jungles not previously brought within the scope of proposed railway-fuel operations, and will increase the sustained yield by at least 1,000 tons. About 50,000 tons may, therefore, be taken as the sustained fuel-yield of the tract in Belgaum which supplies firewood for the Railway. The demand has now risen—owing to the rise in the price of coal—to 70,000 tons. It is impossible to say how long this demand will continue, but, considering that, before the rise in the price of coal it amounted to 45,000 tons, it is scarcely likely, with increasing traffic, to fall within a measurable period below the sustained yield of the Belgaum tract above referred to. 50,000 tons are equal to 3,400,000 cubic feet, and it appears very doubtful that so large a quantity can be got out without a tramway. I note the remark in paragraph 13 of the Government of India's letter, that we have been working the forests unfairly by exploiting tracts closer to the line than the average lead for the whole area. This was done in the hope that either the Railway Company, or the Forest Department, would very shortly be able to employ trams for the transport of the fuel, carriage by means of carts being reckoned insufficient for the exploitation of the sustained yield from a distance equal to the average lead of the whole tract. This mistake will now be rectified and the forest so worked that the fuel cut in any year shall always be brought about the same average distance—2½ miles.

97. The yield of myrabollams was 6,311 khandis (worth Rs. 56,441) against 6,655 (worth Rs. 57,180) in the previous year. The collection was poor

and the harda-nuts were light. The number of bamboos extracted rose from 564,399 to 1,191,073.

98. *Dhárwár.*—The yield of teak (23,000 cubic feet in 1889-90 against 23,700 cubic feet in 1888-89) and junglewood-rafters (2,000 cubic feet against 2,500 cubic feet) shows a decrease; so does that of *jeráyeti*-wood (10,000 cubic feet against 13,300). But the out-turn of firewood removed by carts rose from 5,130 in 1888-89 to 6,102 in 1889-90, and that removed by animal-loads from 6,960 to 13,512. The quantity removed by head-loads fell from 32,728 to 26,610 cubic feet, and the stacks taken from coupes, from 205,092 cubic feet to 200,160. The yield of sandalwood was 26 khandis against 22 of the previous year. The number of bamboos extracted was 416,283 against 560,341.

99. *Bijápur.*—The yield of timber and firewood was as follows:—

		1888-89.		1889-90.	
Jantis. ...	... Head-loads =	60,541	Cubic-feet.	51,283	cubic-feet.
Firewood....	... Cart-loads =	54,468	„	50,148	„
Do. ...	...Animal-loads =	128,204	„	71,976	„
Do. ...	... Head-loads =	115,764	„	128,679	„

Kolába-Ratnágiri.

100. *Kolába.*—The yield of teak-trees amounted to 658,000 cubic feet against 504,525 in 1888-89, and of teak-beams to 35,000 cubic feet against 77,810 cubic feet.

101. The firewood removed amounted to 97,048 cubic feet against 92,000 cubic feet.

102. A rough estimate of yield appears to warrant a higher one than that exploited in previous years.

103. *Ratnágiri.*—The out-turn of teak was 102,708 cubic feet against 98,370. 206 cubic feet of *injáili* timber were also extracted during the year under report; but the firewood removed amounted to only 1,080 cubic feet against 2,200 cubic feet of the previous year.

104. The Saw-Mills at Kannigeri, in Kánara, were closed on the 31st May 1889, and advertised for sale under Government orders. During the year, three engines, the major portion of the machinery, and some minor stores and tools, were sold for Rs. 7,278. Most of the machinery was old.

105. The receipts during the year at the mills up to the date on which they were closed amounted to Rs. 12,509 and the expenditure Rs. 3,645.

CHAPTER V.

FINANCIAL RESULTS.

106. The details of the year's transactions are shown in forms Nos. 58 to 62, appended.

107. The receipts and expenditure of the Southern Circle for the years 1888-89 and 1889-90 were—

Year.	Receipts.	Charges.	Surplus or Net Revenue.
	Rs.	Rs.	Rs.
1888-89	12,73,554	6,75,601	5,97,953
1889-90	13,25,676	6,50,343	6,75,333

108. The increase is mainly due to the sale of a larger quantity of fuel to the Southern Marátha Railway Company in Belgaum, and of standing teak in Kolába. The quantity exploited in either case is well within the estimated sustained yield of the tracts treated.

109. The gross revenue of the year exceeds that of 1888-89 by Rs. 52,122 and the net revenue by Rs. 77,380. The charges are less by Rs. 25,258.

110. The following shows the revenue and outstandings at the end of the year:—

year.	Amount realized.	Balance due to the Department at the end of the year.
	Rs.	Rs.
1888-89	12,73,554	1,99,485
1889-90	13,25,676	2,29,425

111. The actual profit to be credited to the year 1889-90 was, therefore, Rs. 6,75,333+2,29,425—1,99,485=Rs. 7,05,273.

112. The following statement shows the receipts and charges for 1888-89 and 1889-90 under each main head:—

Heads of Revenue and Charges.	1888-89.	1889-90.	Increase.	Decrease.
	Rs.	Rs.	Rs.	Rs.
RECEIPTS.				
I.—Timber and other produce removed from forests by Government agency ...	8,78,590	9,10,829	32,239	...
II.—Timber and other produce removed from the forests by consumers or purchasers	3,87,412	4,00,074	12,662	...
III.—Confiscated, drift and waif wood ...	1,561	2,193	632	...
IV.—Revenue from forests not managed by Government	66	214	148	...
V.—Miscellaneous	5,925	12,366	6,441	...
Total ...	12,73,554	13,25,676	52,122	...
CHARGES.				
A.—Conservancy and Works.				
I.—Timber and other produce removed from the forests by Government agency	3,34,836	3,16,846	...	17,990
II.—Timber, &c., removed from forests by consumers or purchasers ...	7,038	5,847	...	1,191
III.—Confiscated, drift and waif wood ...	49	75	26	...
V.—Rent of leased forests and payments to share-holders in forests managed by Government ...	9,476	5,231	...	4,245
VI.—Live-stock, stores, tools and plant .	1,998	1,578	...	420
VII.—Communications and buildings ...	6,740	5,494	...	1,246
VIII.—Demarcation, improvement and extension of forests ...	61,191	62,303	1,112	...
IX.—Miscellaneous	1,126	1,951	825	...
Total A...	4,22,454	3,99,325	1,963	25,092
B.—Establishments.				
I.—Salaries	2,05,222	2,03,398	...	1,824
II.—Travelling allowances... ...	33,170	33,854	684	...
III.—Contingencies	14,755	13,766	...	989
Total B....	2,53,147	2,51,018	684	2,813
Total Charges, A. & B.	6,75,601	6,50,343	2,647	27,905

Receipts.

113. The receipts show an increase under all main heads. The increase against I is met with as follows:—Rs. 23,721 under '*b* Firewood', Rs. 9,871 under '*d* Sandalwood' and Rs. 13,444 under '*e* Grass and other minor produce.' The increase is due (1) to the sale of a larger quantity of fuel supplied to the Southern Marátha Railway Company, (2) to the sale of some sandalwood remaining over from the previous year's supply and to better rates obtained for that wood, and (3) to a better crop of myrabollams in the Southern Division of Kánara. The prices obtained for hardás were also higher.

114. On the other hand '*a* Timber' shows a decrease of Rs. 14,744, which occurs in the Central Division of Kánara (Rs. 26,675), in Belgaum (Rs. 8,469), Dhárwár (Rs. 31,172) and Kolába (Rs. 3,578). In the two first-named Divisions, the value of a part of what was sold was not credited in the year's receipts. The decrease in the Central Division of Kánara was also partly due to the contractors having failed to bring in the required quantity of timber on account of the epidemic which decimated the number of their work-people. In Dhárwár a smaller quantity was exploited owing to diminished demand; and, in Kolába, departmental operations were reduced because better prices were realizable by the sale of standing timber. The figures of the Northern Division of Kánara, however, show an increase of Rs. 55,631, which is due to the sale of a larger quantity of timber.

115. The sub-head 'II*a*' shows an increase of Rs. 32,155. This is ascribable to a better demand for wood for export in Kolába and in the Northern Division of Kánara, and for local use in Southern Kánara. In Belgaum a greater quantity of timber-standards in fuel cuttings was sold. On the other hand, 'II*b* Firewood' shows a decrease of Rs. 16,252, which occurs in the Northern and Central Divisions of Kánara and in Kolába. In the Central Division of Kánara, it is reported that fuel-contractors failed to pay the full amount due during the year, and in the two other divisions there was less demand for fuel. Receipts under '*d* Grazing and fodder grass' show an improvement.

116. The increase appearing under V is owing (1) to fines levied on contractors for breach of their agreements, (2) to a sum of Rs. 3,627 paid by the Southern Marátha Railway Company for land, and (3) to carts and cattle (worth about Rs. 1,500) having been sold in Belgaum.

Expenditure.

A.—Conservancy and Works.

117. The decrease under 'I*a*' (Rs. 40,750) is owing to a corresponding decrease in revenue. The closing of the saw-mills in the Central Division of Kánara also effected a saving of Rs. 11,554. The increase under I*b* and *e* is due to an increase of revenue under the corresponding heads of receipts.

118. The decrease under II is owing to remuneration, due for several years, having been paid to village-officers during 1888-89 in the Southern and Northern Divisions of Kánara and in Dhárwár. That under V and VII is due (1) to smaller payments to Khots and Rakhwáldárs in Kolába, and (2) to less expenditure incurred on 'Roads and Bridges.' Under VIII*a* and *e* there are increases of Rs. 2,999 and Rs. 5,196, respectively, due to increased operations connected with the demarcation of forests in the Central and Northern Divisions of Kánara, and to expenditure on fire-protection.

119. On the other hand, the expenditure under 'VIII*c*' shows a decrease of Rs. 6,623, which is due to less expenditure on organization-work.

B.—Establishments.

120. The decrease under this head is Rs. 2,129, which is mainly ascribable partly to there being no separate Divisional Officer for Ratnágiri, and partly to absence of officials on leave.

121. The following shows the value, calculated at seigniorage-rates, of the forest produce granted free:—

Division.	Value of free grants made during		Remarks.
	1888-89.	1889-90.	
	Rs. a. p.	Rs. a. p.	
Northern Division of Kánara ...	15,225 10 9	4,598 9 11	
Central Division of Kánara ...		6,148 12 5	
Southern Division of Kánara ...		4,439 11 4	
Belgaum	130 7 5	141 13 3	
Dhárwár...	.....	35 0 0	
Kolába	94 0 0	834 15 1	
Ratnágiri	.....	35 0 0	
Total ...	15,450 2 2	16,233 14 0	

CHAPTER VI.

GENERAL REMARKS.

FINANCIAL RESULTS.

122. The improvement in net revenue, anticipated in last year's report, has been realized, and will no doubt continue during the current year; but in order to fully develop the resources of the Supa-forests, it will be necessary to construct the bullock-tramway, from Shiróli to Halliál, unanimously recommended by the members of the Committee appointed by Government to consider the question.

HEALTH, &c., OF ESTABLISHMENTS.

123. The influenza epidemic caused an unusual amount of sickness, particularly in Kánara, and nearly all members of the executive and protective establishments suffered severely from it at a time when their services were most required. Sickness was also more prevalent than usual amongst the villagers who are employed by the Forest Department, and this, added to an outbreak of anthrax amongst the cattle employed by them, seriously affected the exploitation of timber in Kánara.

124. I am pleased to be able to report favourably on the work of the superior officers serving in the Southern Circle. Mr. H. Mitra, whose conduct during the previous year was not satisfactory, is reported to have done much better during the year under report.

125. The Divisional Officers have specially brought to my notice the good work done by the following officers:—

Forester Mahableshwar Nágapá, Range-Forest-Officer.

Forester Shoshgir Govind.

Forester Abdul Rauf, Range-Forest-Officer.

Belgaum Divisional Office Head-Clerk F. X. Saldanha.

Ranger Ganpat Rege.

Forester Hassan valad Mohidin, Range-Forest-Officer.

TOUR OF INSPECTION.

126. On the 1st April, I was at Poona on my way to Belgaum from Kolába, and on the 12th I arrived at Hemadge in the Belgaum District. From Hemadge I went to Anmod in the Northern Division of Kánara, and thence to Birchi and Jagalbet. From Jagalbet I passed through the reserves, extending along the Railway, which furnish fuel for the locomotives, to Nágargáli, which was reached on the 15th May, and on the 18th, I went into Head-Quarters for the rains.

127. On the 19th of November, I reached Bágalkot, in the Bijápúr District, where I met the Divisional Officer, and then went *viâ* Sirur to Bádámi. There I saw the results of some experiments in the planting-up of bare spaces on hill-tops and then proceeded to Gowankop and on the 10th to Nargund in the Dhárwár District. From Nargund, I marched *viâ* Annigeri, Hubli and Tadas, to Dundshi where I arrived on the 25th December. On January 4th, I arrived at Sanawalli on the borders of Kánara and Dhárwár, noting, as I passed through the forests, that the jungles between Sanawalli and Dundshi had already been swept by fire.

128. From Sanawalli I went to Sirsi, the Head-Quarters of the Southern Division of Kánara, *viâ* the Singanhalli-depôt, Pála and Yekumbi. At Sirsi I met the Divisional Officer, and proceeded on the 20th January to Sonda, and thence *viâ* Manchikeri to Yellápur. At Yellápur I met the Forest Settlement Officer and the Collector, and prepared, in conjunction with them, a draft of rules under section 31 of the Forest Act for the forests of Kánara.

129. Leaving Yellápur on the 28th January, I marched *viâ* Tátwhál, Bomanhalli and Virnoli to Amgám and Shiroli, meeting there Messrs. Oliver and Bell, the Assistant Conservators engaged in the organization of the tracts to be traversed by the proposed forest-railway. I then proceeded *viâ* Joida, Kumbárvádá, Jaláli, and Kadrá to Kárwár, where I met the Divisional Officer of the Northern Division of Kánara, and then marched to Samjoida and Dudhmálá, where I arrived on the 25th of March.

130. On my tour in the above-ghát tracts west of the Sirsi-Yellápúr road, I noted the destruction of forests caused by the cutting of *ráb* for *supári*-gardens. I also noticed that *supári*-gardens were being largely extended by the conversion of rice lands. This extension of garden-lands is a very serious matter, as the people already complain that the area allotted for *ráb* is insufficient for the requirements of existing gardens, and sooner or later great pressure will be brought to bear on Government to allot fresh *ráb*-lands from the remnants of the forest not already given up. I also observed numerous cases in which forests not allotted for *ráb*, and reserved trees in *ráb*-allotments had been lopped and even pollarded. The offenders have been let-off with the payment of nominal sums as compensation, but are to be prosecuted for repeated offences.

131. Rules under the Forest Act for the lopping of trees on *ráb*-lands were submitted to, and, with some modification, have been approved by, Government. The owners of garden-lands are extremely reckless in the treatment of *ráb*-forests. If the rules now sanctioned can be enforced, devastation of *ráb*-forests may perhaps be arrested.

J. L. L. MacGREGOR,
Conservator of Forests, Southern Circle.

Conservator's Office, Southern Circle :
Belgaum, 18th October 1890.

LIST OF STATEMENTS ACCOMPANYING THE FOREST ADMINISTRATION REPORT OF THE CONSERVATOR OF FORESTS, SOUTHERN CIRCLE, FOR 1889-90.

Form No. 49	Area of Reserved Forests, 1889-90.
„ „ 49A	Area of Protected Forests, 1889-90.
„ „ 50	Prosecution for breaches of Forest Rules during 1889-90.
„ „ 51	Area of Forest tracts protected from fire during the dry season of 1890.
„ „ 52	Area of Plantations, 1889-90.
„ „ 54	Outturn of Timber and Fuel, 1889-90.
„ „ 55	Outturn of minor Forest Produce, 1889-90.
„ „ 56	Account of Timber and other Produce cut or collected by Government agency and brought to Sale Depôts or sold locally during the year 1889-90.
„ „ 57	Abstract showing the value of Timber and other Produce at Sale Depôts for the year 1889-90.
„ „ 57A	Abstract showing the value of Dead-stock for the year 1889-90.
„ „ 58	Summary of Revenue and Expenditure of the different Divisions during the year 1889-90.
„ „ 59	Account Current for the year 1889-90.
„ „ 60	Revenue received and Outstandings on account of Revenue during 1889-90.
„ „ 61	Outstandings and Liabilities on account of Contractors and Disbursers for 1889-90.
„ „ 62	Financial Results of the year 1889-90.

J. L. L. MacGREGOR,
Conservator of Forests, Southern Circle.

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FORM No. 49.

Forest Department, Bombay, Southern Circle.

Area of Reserved Forests, 1889-90.

Division or Range.	Civil District or Territory.	Name of Forest.	Area on 1st April 1889.		Added during the year.	Excluded or transferred to other heads.	Area on 31st March 1890.		No. and Date of Notification of addition or transfer.	Remarks.
			Acres.	Equivalent in Square Miles.	Acres.	Acres.	Acres.	Equivalent in Square Miles.		
1 Northern Division, Kánara.	Kánara ...	Halliál and Kárwár	298,437	466	...	...	298,437	466	.....	
2 Central Division, Kánara.	Do. ...	Mundgod and Ankola	117,359	184	...	...	117,359	184	.....	
3 Southern Division, Kánara	Do. ...	Sirsi	21,771	34	...	...	21,771	34	.....	
4 Belgaum ...	Belgaum ...	Khánápur, Belgaum, Sampgaon, Gokák, Chikodi and Athni.	316,579$\frac{9}{10}$	495	...	...	316,579$\frac{9}{10}$	495	.....	
5 Dhárwár ...	Dhárwár ...	Dhárwár, Kalghatgi, Hángal, Bankápur, Kod, Gadag, Ron, Nargund, Hubli and Ránebennur.	109,850$\frac{3}{10}$	172	...	...	109,850$\frac{3}{10}$	172	.....	
6 Bijápur ...	Bijápur ...	Bádámi, Hungund, Bijápur, Bágevádi, Muddebihál and Indi.	99,275$\frac{13}{16}$	155	...	...	99,275$\frac{13}{16}$	155	.....	
7 Kolába ...	Kolába ...	Alibág, Panvel, Pen, Roha, Mahád and Mángaon.	188,150$\frac{8}{8}$	294	...	...	188,150$\frac{8}{8}$	294	.....	
8 Ratnágiri ...	Ratnágiri ...	Dápoli, Khed, Rájápur, Málvan, Chiplún and Sangameshvar.	12,760$\frac{8}{8}$	20	152$\frac{11}{16}$	$\frac{1}{10}$	12,912$\frac{8}{8}$	20$\frac{1}{10}$	No. 4070 of 4th June 1889 and No. 8224 of 29th October 1889.	
		Total ...	1,164,183$\frac{13}{16}$	1,820	152$\frac{11}{16}$	$\frac{1}{10}$	1,164,336$\frac{3}{10}$	1,820$\frac{1}{10}$		

Conservator's Office, Southern Circle :
Dated Belgaum, 18th October 1890.

J. L. L. MacGREGOR,
Conservator of Forests, Southern Circle.

FORM No. 49 A.

FOREST DEPARTMENT, BOMBAY, SOUTHERN CIRCLE.

Area of Protected Forests, 1889-90.

Division or Range.	Civil District or Territory.	Name of Forest.	Area on 1st April 1889.		Added during the year.	Excluded or transferred to other heads.	Area on 31st March 1890.		No. and Date of Notification of addition or transfer.	Remarks.
			Acres.	Equivalent in Square Miles.	Acres.	Acres.*	Acres.	Equivalent in Square miles.		
1 Northern Division, Kánara.	Kánara ...	Supa	462,944	723	...	...	462,944	723	.....	
2 Central Division, Kánara.	Do. ...	Yellápur, Mundgod, Kumta and Ankola.	568,209	888	...	92 17/25	568,116 8/25	888	Nos. 8377 of 4th November 1889 and 2320 of 31st March 1890.	
3 Southern Division, Kánara.	Do. ...	Sirsi, Siddápur, Honávar and Bhatkal.	802,438	1,254	...	5 11/25	802,432 14/25	1,254	Nos. 6490 of 3rd September 1889 and 1094 of 10th February 1890.	
4 Belgaum ...	Belgaum ...	Belgaum, Chikodi, Gokák and Parasgad.	126,011 23/25	197	...	...	126,011 23/25	197	.....	
5 Dhárwár ...	Dhárwár ...	Dhárwár, Kalghatgi, Bankápur, Kod, Hángal, Gadag, Ránebennur, Karajgi and Hubli.	166,659	260	...	...	166,659	260	.....	
6 Bijápur ...	Bijápur ...	Bágalkot, Hungund, Bijápur, Bágevádi and Indi.	364	1	...	...	364	1	.....	
7 Kolába ...	Kolába ...	Alibág, Panvel, Pen, Roha, Mahád, Mángaon and Nágothna.	56,926 1/4	89	...	...	56,926 1/4	89	.....	
		Total ...	2,183,552 14/25	3,412	...	98 11/25	2,183,453 3/25	3,412		

Conservator's Office, Southern Circle:
Dated Belgaum, 18th October 1890.

J. L. L. MACGREGOR,
Conservator of Forests, Southern Circle.

FORM No. 50.

Forest Department, Bombay, Southern Circle.

Register of breaches of Forest Rules during 1889-90.

Forest Division.	Cases pending from 1888-89.	New cases of the year.					Total cases.	Disposed of during the year.						Cases pending at close of year.
		Injury to forest by fire.	Unauthorized felling or appropriation of wood and minor forest produce.	Grazing without permission in tracts in which grazing is prohibited.	Other offences.	Total new cases of the year.		Convictions.		Acquittals.		Total.		
								Cases.	Persons.	Cases.	Persons.	Cases.	Persons.	
Northern Division of Kánara. A	3	1	10	...	...	11	14	10	13	4	11	14	24	...
B	...	...	19	...	...	19	19	19	19	...	...	19	19	...
C	...	...	7	...	...	7	...	...	...	...	...	...	...	...
Total	3	1	36	...	...	37	33	29	32	4	11	33	43	...
Central Division of Kánara. A	5	...	6	...	2	8	13	9	19	3	5	12	24	1
B	...	...	14	...	1	15	15	14	16	1	1	15	17	...
C	...	3	7	...	1	11	...	...	...	...	...	...	...	...
Total	5	3	27	...	4	34	28	23	35	4	6	27	41	1
Southern Division of Kánara. A	...	...	22	...	...	22	22	9	13	13	32	22	45	...
B	37	...	103	...	...	103	140	140	430	...	...	140	430	...
Total	37	...	125	...	...	125	162	149	443	13	32	162	475	...
Belgaum ... ... A	1	2	39	...	9	50	51	35	105	7	15	42	120	9
B	...	3	93	...	3	99	99	99	353	...	...	99	353	...
C	...	1	29	...	...	30	...	...	...	...	...	...	...	...
Total	1	6	161	...	12	179	150	134	458	7	15	141	473	9
Dhárwár ... ... A	...	...	8	...	1	9	9	5	10	4	10	9	20	...
B	...	...	27	...	...	27	27	27	127	...	...	27	127	...
Total	...	...	35	...	1	36	36	32	137	4	10	36	147	...

Bijápur	A	...	3	...	7	...	...	7	10	8	22	2	14	10	36	...
	B	...	...	...	93	...	...	93	93	93	246	...	...	93	246	...
	Total	...	3	...	100	...	...	100	103	101	268	2	14	103	282	...
Kolába	A	...	4	3	19	1	1	24	28	20	132	4	10	24	142	4
	B	...	...	5	139	...	45	189	189	189	646	...	...	189	646	...
	Total	...	4	8	158	1	46	213	217	209	778	4	10	213	788	4
Ratnágiri	A	...	...	...	2	2	1	5	5	5	9	...	...	5	9	...
	B	...	...	5	70	2	16	93	93	93	250	...	...	93	250	...
	Total	...	...	5	72	4	17	98	98	98	259	...	...	98	259	...
Grand Total ...	A	...	16	6	113	3	14	136	152	101	323	37	97	138	420	14
	B	...	37	13	558	2	65	638	675	674	2,087	1	1	675	2,088	...
	C	...	...	4	43	...	1	48	...	..	...	...	...	...	...	...

A.—Means cases taken into court.
B.—Means cases disposed of under Section 67 of Indian Forest Act, 1878.
C.—Means undetected cases.

Conservator's Office, Southern Circle:
Dated Belgaum, 18th October 1890.

J. L. L. MacGREGOR,
Conservator of Forests, Southern Circle.

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FORM No. 51.

FOREST DEPARTMENT, BOMBAY, SOUTHERN CIRCLE.

Area of Forest Tracts protected from Fire during the Dry Season, 1890, to accompany Report for 1889-90.

Division.	Forest Tracts.	Year in which protection commenced.	Area actually protected up to 15th June 1889.	During the Dry Season of 1890.			Cost during the Season.	Remarks.
				Area attempted to be protected.	Failures.	Actually protected.		
			Acres.	Acres.			Rs. a. p.	
Northern Division of Kánara.	Kárwár Range Forests ...	1887-88 ...	12,177	12,392	3	12,389	516 7 0	
	Halliál do. ...	,, ...	118,525	131,367	7,200	124,167	3,257 5 0	
	Supa do. ...	1888-89 ...	60,000	155,744	47,003	108,741	2,381 15 0	
	Total ...	.....	190,702	299,503	54,206	245,297	6,155 11 0	
Central Division of Kánara.	Yellápur Range Forests ...	1888-89 ...	79,861	43,696	9,392	34,304	851 13 0	
	Mundgod do. ...	,, ...	47,791	35,788	100	35,688	1,056 3 6	
	Ankola do. ...	,, ...	99,524	7,211	32	7,179	222 14 6	
	Total ...	.....	227,176	86,695	9,524	77,171	2,130 15 0	
Southern Division of Kánara.	Sirsi Range Forests	1887-88 ...	23,651	84,289	2,870	81,419	295 5 6	
Belgaum Division.	Chikodi Range Forests ...	1883-84 ...	10,425	2,816	...	2,816	33 2 0	
	Khánápur do. ...	1884-85 ...	5,339	51,634	6,084	45,550	1,188 3 0	
	Belgaum do. ...	1886-87 ..	7,580	13,120	...	13,120	114 6 0	
	Gokák-Sampgaon Forests ..	1887-88 ...	11,877	21,056	145	20,911	110 4 0	
	Total ...	.....	35,221	88,626	6,229	82,397	1,445 15 0	
Dhárwár Division.	Dhárwár Range Forests ...	1888-89 ...	6,121	3,013	14	2,999	154 4 6	
	Kalghatgi do. ...	,, ...	6,835	7,824	2,272	5,552	153 11 6	
	Bankápur do. ..	,, ...	2,337	5,036	600	4,436	55 8 0	
	Hángal do. ...	,, ...	...	1,755	50	1,705	21 9 0	
	Kod do. ...	,, ...	8,052	111	10	101	16 8 0	
	Gadag do. ...	,, ...	6,400	3,711	...	3,711	62 1 0	
	Total ...	.....	29,745	21,450	2,946	18,504	463 10 0	
Bijápur Division.	Bádámi Range Forests ..	1889-90 ...	...	25,882	500	25,382	84 8 6	
	Bágalkot do. ..	,, ...	...	20,503	15	20,488	142 7 11	
	Total ...	.....	...	46,385	515	45,870	227 0 5	
Kolába Division.	Pen Range Forests	1888-89 ...	4,381	4,859	...	4,859	182 0 0	
	Nágothna do.	,, ...	6,147	6,147	...	6,147	158 1 0	
	Roha do.	,, ...	5,986	7,752	...	7,752	196 14 0	
	Mángaon do.	,, ...	344	344	...	344	10 4 3	
	Panvel do.	,, ...	700	700	...	700	67 12 0	
	Alibág do.	1889-90 ...	...	3,426	3,426	...	.....	
	Total ...	.....	17,558	23,228	3,426	19,802	614 15 3	
Ratnágiri Division.	Dápoli Range Forests ..	1889-90 ...	...	172	..	172	10 8 0	
	Málvan do. ...	,, ...	...	190	...	190	13 10 9	
	Total ...	.. ..	...	362	...	362	24 2 9	
	Grand Total ...	.....	524,053	650,538	79,716	570,822	11,357 10 11	

Conservator's Office, Southern Circle:
Dated Belgaum, 18th October 1890.

J. L. L. MACGREGOR,
Conservator of Forests, Southern Circle.

FORM No. 52.

FOREST DEPARTMENT, BOMBAY, SOUTHERN CIRCLE.

Area of Plantations, 1889-90.

Division.	Name of Plantation.	AREA IN ACRES. On 1st April 1889.	Added during the year.	Excluded during the year.	Area on 31st March 1890.	RECEIPTS. Of the year. Rs. a. p.	CHARGES. Of the year. Rs. a. p.	REMARKS.
	Regular Plantations.							
Northern Division of Kánara.	Kadra	357	..	..	357	....	334 1 3	
	Mardi	110	..	..	110	....	133 4 0	
	Sulgeri	110	..	..	110	....	244 10 0	
	Kárwár	123	..	..	123	651 8 0	128 0 0	
	Bingi	20	..	..	20	186 11 6	60 2 0	
	Argé	20	5	..	25	....	677 9 9	
	Barchi	221	..	..	221	....	....	
	Singatgeri	83	..	..	83	....	133 8 0	
	Bomanhalli	200	..	..	200	....	....	
Central Division of Kánara.	Devarbail Plantation	15	6	..	21	14 0 0	20 3 0	
	Arbail	5	..	..	5	....	....	
Southern Division of Kánara.	Kasercode	298	..	..	298	....	220 1 6	
Belgaum	Kalasgadé	13	..	..	13	....	....	
	Linganmat	16	..	..	16	....	....	
	Deshnur	150	..	..	150	4 0 0	....	
Bijápur	Anantpur	90-5	..	..	90-5	....	12 0 0	
	Mamdápur	168	6	..	174	....	48 0 0	
	Shivpur	12	..	..	12	....	....	
Dhárwár	Kelgeri Teak Plantation	..	21	..	21	105 0 0	4 2 0	
	Devikop	..	29	..	29	....	23 4 0	
	Kalkundi	..	125	..	125	....	1,046 8 0	
Kolába	Warsoli	10	..	..	10	37 3 0	....	
	Rámdharni	50	..	..	50	....	....	
	Rájwádi	12	..	..	12	....	....	
	Total, Regular Plantations	2,083-5	192	..	2,275-5	998 6 6	3,085 0 6	
	Cultural Operations.							
Central Division of Kánara.	Sahasarawali	12	..	..	12	....	....	
	Yelláput	26	..	..	26	....	66 15 10	
	Harwáda	1	..	..	1	12 0 0	....	
	Baleguli	..	8	..	8	....	68 6 0	
Southern Division of Kánara.	Banawasi	27	..	..	27	....	....	
	Anegundi	7	..	..	7	....	....	
	Kalkatti	2	..	..	2	....	....	
Belgaum	Three kumri villages in Belgaum.	21	..	..	21	....	....	
	Seventeen ditto, Khánápur.	90	..	90	..	....	....	
	Nagargali	0-10	..	..	0-10	....	4 1 0	
	Sowing seed in Konnur Jungle.	..	40	..	40	....	60 10 0	
Dhárwár	Kambarganvi	..	0-20	..	0-20	....	64 14 0	Some of the cultural operations shown against this division in last year's statement have been entered under 'Regular Plantations' and the rest abandoned.
	Hosur	..	7	..	7	....	13 4 0	
	Karkikop	..	1	..	1	....	1 6 0	
	Dhundshi	..	80	..	80	....	73 14 0	
	Allipur	..	16	..	16	....	52 4 0	
	Babapur	..	80	..	80	....	17 0 3	
	Chennikatti	..	10	..	10	....	12 12 6	
	Basapur	..	10	..	10	....	3 4 0	
	Harikatti	..	2	..	2	....	0 12 0	
	Banihatti	..	42	..	42	....	118 0 0	
Bijápur	Mamdápur	216	..	..	216	....	....	
	Kaládgi	195	..	..	195	....	....	
	Jacknur	9	..	..	9	....	....	
	Khánápur	0-20	..	..	0-20	....	....	
	Nágrál	0-20	..	..	0-20	....	....	
Kolába	Alibág	5	..	5*	..	....	....	*Abandoned. Plants that had grown there having been transferred to 'Regular Plantations.'
	Sattad	81	..	..	81	....	....	
Ratnágiri	Dápoli	119	41	42	118	....	....	†Disforested.
	Khéd	17	..	..	17	....	....	
	Chiplún	73	..	..	73	....	....	
	Sangameshwar	145	16	39†	122	....	....	
	Málvan	30	..	..	30	....	....	
	Total, Cultural Operations	‡1,077-10	353-20	176	1,254-30	12 0 0	557 7 7	‡ For difference between these figures and those shown in column "Area on 31st March 1889" in last year's statement, see remark against Dhárwár above
	Grand Total	3,160-15	545-20	176	3,529-35	1,010 6 6	3,642 8 1	

Conservator's Office, Southern Circle:
Dated Belgaum, 18th October 1890.

J. L. L. MACGREGOR,
Conservator of Forests, Southern Circle.

FORM No 54.

FOREST DEPARTMENT, BOMBAY, SOUTHERN CIRCLE.

Outturn (in Cubic feet, solid) of Timber and Fuel during the year 1889-90, and Agency of Exploitation.

Division.	TIMBER IN THE ROUGH LOGS.					TIMBER IN THE ROUGH POLES.					SAWN OR SQUARED TIMBER.					MISCELLANEOUS.					FUEL.					TOTAL.
	Government.	Purchaser.	Free Grants.	Right-holders.	Total.	Government.	Purchasers.	Free Grants.	Right-holders.	Total.	Government.	Purchasers.	Free Grants.	Right-holders.	Total.	Government.	Purchasers.	Free Grants.	Right-holders.	Total.	Government.	Purchasers.	Free Grants.	Right-holders.	Total.	Outturn.
	C. ft.	C. ft.	C. ft.		C. ft.	C. ft.	C. ft.	C. ft.		C ft.	C. ft.	C. ft.	C. ft.		C. ft.	C. ft.	C. ft.	C. ft.		C. ft.	C. ft.	C. ft.	C. ft.		C. ft.	C. ft.
Northern Division of Kánara	52,147	37,490	11,076	...	100,713	45,629	431	1,600	...	47,660	111,325	11,125	9,101	...	131,551	14,811	4,504	...	...	19,315	24,586	364,710	969		390,265	689,504
Central Division of Kánara	137,466	47,969	29,363	...	214,798	33,099	1,486	315	...	34,900	2,176	...	...	...	2,176	3,549	117	...	...	3,666	...	617,899	4,485		622,384	877,924
Southern Division of Kánara	...	97,871	20,099	...	117,970	...	97	...	...	97	27,765	...	...	..	27,765	Sandalwood Kandies 40 2 10 and 535 tolás oil.	...	...	...	40 2 10 and 535 tolás oil.	12,600	133,336	...		145,936	291,768 Kandies 40 2 10 and 535 tolás oil.
Belgaum	...	13,951	740	...	14,691	30,963	2,181	...	...	33,144	9,584	...	...	...	9,584	5,325	173	...	...	5,498	2,272,073	303,016	...		2,575,089	2,638,006
Dhárwár	...	...	...	...	...	34,760	1,800	70	...	36,630	...	...	...	...	...	.....	51	...	...	51	216	233,437	36		233,689	270,370
Bijápur	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	.....	51,643	...	...	51,643	...	254,151	...		254,151	305,794
Kolába	...	...	...	...	...	37,500	682,525	4,742	...	724,767	...	...	...	...	...	.. ...	...	...	...	.....	...	66,232	...		66,232	790,999
Ratnágiri	...	...	...	...	...	99,900	2,808	206	...	102,914	...	...	...	...	...	.....	...	...	...	.....	1,080	...	...		1,080	103,994
Total ...	189,613	197,281	61,278	...	448,172	281,851	391,328	6,933	...	980,112	150,850	11,125	9,101	...	171,076	23,685 Kandies 40 2 10 and 535 tolás oil.	56,488	...	...	80,173 Kandies 40 2 10 and 535 tolás oil.	2,310,555	1,972,781	5,490		4,288,826	5,968,359 Kandies 40 2 10 and 535 tolás oil.

There are no right-holders except in regard to grazing and *rab*, the quantity and value of which cannot be assessed.

Conservator's Office, Southern Circle:
Dated Belgaum, 18th October 1890.

J. L. L. MACGREGOR,
Conservator of Forests, Southern Circle.

FORM No. 55.

FOREST DEPARTMENT, BOMBAY, SOUTHERN CIRCLE.

Outturn of Minor Forest Produce.

Division.	Description of Produce.	PRODUCE REMOVED OR UTILIZED.									
		By Government Agency.		By Purchasers.		By Free Grants.		By Right-holders.		Total.	
		Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
			Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.
Northern Division of Kánara.	Bamboos	2	0 11 0	3,540,468	38,958 15 0	9,537	41 0 0	...	.....	3,550,007	39,000 10 0
	Do. fees from Medárs ...	.....	.....	...	17 8 0	...	.....	...	.....	.....	17 8 0
	Charcoal ... ... C. ft.	.....	.....	794	22 15 0	...	.....	...	.....	794	22 15 0
	Grazing fees	.....	.....	..	6,491 11 8	...	.....	...	.....	.....	6,491 11 8
	Honey	.....	.....	...	747 0 0	...	.....	...	.....	.....	747 0 0
	Myrabollams ... Khandis.	2,073	18,990 1 5	...	.....	...	.....	...	.....	2,073	18,990 1 5
	Stones ... ... C.ft.	.....	.....	11,000	17 3 0	...	.....	...	.....	11,000	17 3 0
	Earth... ... ... ,,	.....	.....	1,250	0 12 6	...	.....	...	.....	1,250	0 12 6
	Pepper	.....	.....	...	16 0 0	...	.....	...	.....	.....	16 0 0
	Shigekái	.....	.....	...	961 0 0	...	.....	...	.....	.....	961 0 0
	Cinnamon bark	.....	.....	...	155 0 0	...	.....	...	.....	.....	155 0 0
	Tapping fees on Baini trees ...	.....	.....	854	53 6 0	...	.....	...	.....	854	53 6 0
	Kájra seeds...	.....	.....	...	11 12 0	...	.....	...	.....	.....	11 12 0
	Shembe bark	.....	.....	...	31 4 0	...	.....	...	.....	.....	31 4 0
	Wild Turmeric	.....	.....	...	5 8 0	...	.....	...	.....	.....	5 8 0
	Fruits	.....	.....	...	3 9 0	...	.....	...	.....	.....	3 9 0
	Cane ... ... Head-loads.	.....	.....	78	19 10 0	...	.....	...	.....	78	19 10 0
	Total ...	.....	18,990 12 5	...	47,513 2 2	...	41 0 0	...	.....	.....	66,544 14 7
Central Division of Kánara.	Bamboos	150	12 4 0	390,024	7,830 11 4	2,730	24 2 10	...	.....	392,904	7,867 2 2
	Sibs	.....	.....	708,275	6,408 6 0	10,950	27 6 0	...	.....	719,225	6,435 12 0
	Reeds	.....	.....	3,950	4 15 0	...	.....	...	.....	3,950	4 15 0
	Bamboos on contract	.....	.....	...	76 8 0	...	.....	...	.....	.....	76 8 0
	End pieces of Bamboos	.....	.....	2,000	5 0 0	...	.....	...	.....	2,000	5 0 0
	Grazing-fees	.....	.....	...	6,680 6 2	...	.....	...	.....	.....	6,680 6 2
	Earth... ... ... C. ft.	.....	.....	1,008	3 8 0	...	.....	...	.....	1,008	3 8 0
	Canes... ... ... Head-loads.	3	0 5 0	131	37 12 0	3	0 12 0	...	.....	137	38 13 0
	Honey	.....	.....	...	1,617 0 0	...	.....	...	.....	.....	1,617 0 0
	Rámfal, Rámpatri...	.....	.....	...	2,497 8 0	...	.....	...	.....	.....	2,497 8 0
	Pepper	.....	.....	...	398 5 4	...	.....	...	.....	.....	398 5 4
	Cinnamon	.....	.....	...	463 5 4	...	.....	...	.....	.....	463 5 4
	Kaju-seeds	.....	.....	...	12 0 0	...	.....	...	.....	.....	12 0 0
	Nux Vomica	.....	.....	...	12 0 0	...	.....	...	.....	.....	12 0 0
	Cocoanuts	.....	.....	...	0 12 0	...	.....	...	.....	.....	0 12 0
	Grass... ... ... Bundles.	15,475	55 9 10	5,584	3 15 0	...	.....	...	.....	21,059	59 8 10
	Grass...	.....	.....	...	14 0 0	...	.....	...	.....	.....	14 0 0
	Myrabollams ... Khandis.	409 16 14	4,168 13 3	...	.....	...	.....	...	.....	409 16 14	4,168 13 3
	Shigekái ... ... ,,	3 9 18	88 5 1	...	.....	...	.....	...	.....	3 9 18	88 5 1
	Total ...	.....	4,325 5 2	...	26,066 0 2	...	52 4 10	...	.....	.....	30,443 10 2
Southern Division of Kánara.	Myrabollams ... Khandis...	2,260 10 11	25,574 6 9	...	.....	...	.....	...	.....	2,260 10 11	25,574 6 9
	Shigekái ... ... ,,	38 16 4	776 15 10	...	.....	...	.....	...	.....	38 16 4	776 15 10
	Bamboos (large)	.....	.....	70,669	812 3 6	100	1 0 0	...	.....	70,769	813 3 6
	Do. (small)	.....	.....	97,030	276 0 0	750	1 14 0	...	.....	98,280	277 14 0
	Grazing-fees	.....	.....	...	9,319 6 6	...	.....	...	.....	.....	9,319 6 6
	Honey	.....	.....	...	1,912 2 0	...	.....	...	.....	.....	1,912 2 0
	Palm trees... ... C. feet.	.....	.....	3,700	146 8 0	...	.....	...	.....	3,700	146 8 0
	Rámpatri and Cinnamon ...	.....	.....	...	1,086 0 0	...	.....	...	.....	.....	1,086 0 0
	Cocoanuts	.....	.....	...	3 10 6	...	.....	...	.....	.....	3 10 6
	Thorns ... ...Stakes C. ft.	.....	.....	522	5 0 0	...	.....	...	.....	522	5 0 0
	Canes ... ... Loads.	.....	.....	426	157 0 0	3	0 12 0	...	.....	429	157 12 0
	Stones ... ... C. ft.	.....	.....	15,516	53 14 0	...	.....	...	.....	15,516	53 14 0
	Tapping fees on Baini trees ...	.....	.....	2,805	175 5 0	...	.....	...	.....	2,805	175 5 0
	Shige Bark ... ... Mds.	.....	.....	305	76 4 0	...	.....	...	.....	305	76 4 0
	Wild Pepper	.....	.....	...	37 10 0	...	.....	...	.....	.....	37 10 0
	Aleksistu	.....	.....	...	15 9 6	...	.....	...	.....	.....	15 9 6
	Catechu	.....	.....	...	4,905 0 0	...	.....	...	.....	.....	4,905 0 0
	Hadchari leaves ... Loads.	.....	.....	59	7 6 0	...	.....	...	.....	59	7 6 0
	Tali bark ... ... ,,	.....	.....	72	20 7 6	...	...	...	.....	72	20 7 6
	Total ...	.....	26,351 6 7	....	19,009 6 6	...	3 10 0	..	.....	.....	45,364 7 1
Pe.gaum ...	Myrabollams ... Khandis.	6,330 8 26	56,595 10 1	...	.....	...	.....	...	.....	6,330 8 26	56,595 10 1
	Canes ... ... Head-loads.	.....	.....	280	17 8 0	...	.....	...	.....	280	17 8 0
	Bamboos	.....	.....	52,690	1,580 11 3	50	1 8 0	...	.....	52,740	1,582 3 3
	Medár do.	.....	.....	55,688	1,113 12 2	...	.....	...	.....	55,688	1,113 12 2
	Shibs	.....	.....	449,775	4,280 12 0	...	.....	...	.....	449,775	4,280 12 0
	Chivas	.....	.....	632,870	876 4 0	...	.....	...	.....	632,870	876 4 0
	Grazing fees	.....	.....	...	18,480 6 11	...	.....	...	.....	.....	18,480 6 11
	Grass from kurans	.....	.....	...	5,204 0 0	...	.....	...	.....	.....	5,204 0 0
	Do. ... Head-loads.	.....	.....	538	8 11 6	...	.....	...	.....	538	8 11 6
	Toddy trees ... ... C. ft.	.....	.....	400	8 2 0	...	.....	...	.....	400	8 2 0
	Tapping fees on do.	.....	.....	363	22 11 0	...	.....	...	.....	363	22 11 0
	Stones ... ... C. ft.	.....	.....	402,405	1,375 3 3	...	.....	...	.....	402,405	1,375 3 3
	Earth ... ... ,,	.....	.....	2,963	15 10 8	...	.....	...	.....	2,963	15 10 8
	Sand... ... ... ,,	.....	.....	36	0 2 0	...	.....	...	.....	36	0 2 0
	Thorns ... ... ,,	.....	.....	2,824	67 2 6	...	.....	...	.....	2,824	67 2 6
	Tarwad bark ... Head-loads.	.....	.....	469	43 15 6	...	.....	...	.....	469	43 15 6
	Bandurgi leaves ... ,,	.....	.....	509	32 8 6	...	.....	...	.....	509	32 8 6
	Do. Bullock-loads.	.....	.....	4	4 0 0	...	.....	...	.....	4	4 0 0
	Palm leaves... ... Cart-loads.	.....	.....	1	0 8 0	...	.....	...	.....	1	0 8 0
	Shigekái ... ... Khandis.	.....	.....	265	994 0 0	...	.....	...	.....	265	994 0 0
	Honey ... ... Maunds.	.....	.....	267	682 8 0	...	.....	...	.....	267	682 8 0
	Gum ... ... ,,	.....	.....	552	961 8 0	...	.....	...	.....	552	961 8 0
	Tamarind ... ... ,,	.....	.....	55	13 14 0	...	.....	...	.....	55	13 14 0
	Cinnamon ... ... Khandis.	.....	.....	90	137 0 0	...	.....	...	.....	90	137 0 0
	Fruit farm	.....	.....	...	1 4 0	...	.....	...	.....	.....	1 4 0
	Total ...	.....	56,595 10 1	...	35,922 3 3	...	1 8 0	...	.....	.....	92,519 5 4

FORM No. 55—*continued.*

Division.	Description of Produce.	PRODUCE REMOVED OR UTILIZED.									
		By Government Agency.		By Purchasers.		By Free Grants.		By Right-holders.		Total.	
		Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
			Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.
Dhárwár	Myrabollams ... Baskets.	52½	56 0 0	...	17 0 0	...	.....	...	.....	.....	73 0 0
	Grass ... ... Pullies.	.....	.....	40,637	67 2 6	...	.....	...	.....	40,637	67 2 6
	Do. ... ... Cart-loads.	.....	.....	1	0 2 0	...	.....	...	.....	1	0 2 0
	Do. in Kurans sold by auction.	.....	.....	...	410 10 0	...	.....	...	.....	.....	410 10 0
	Do. for thatching Bundles.	.....	.....	1,787	55 2 3	...	.....	...	.....	1,787	55 2 3
	Stones ... ... C. ft.	.....	.....	4,453	168 8 0	...	.....	...	.....	4,453	168 8 0
	Do. sold by auction	.....	.....	...	29 15 0	...	.....	...	.....	.....	29 15 0
	Plantains ... ... ,,	.....	.....	...	3 9 3	...	.....	...	.....	.....	3 9 3
	Earth ... ... C. ft.	.....	.....	202	8 7 0	...	.....	...	.....	202	8 7 0
	Thorns ... ... ,,	.....	.....	3,588	190 9 0	...	.....	...	.....	3,588	190 9 0
	Manure	.....	.....	...	1 12 0	...	.....	...	.....	.....	1 12 0
	Royalty on branches of toddy trees . .Loads.	.....	.....	1,122	39 4 6	...	.....	...	.....	1,122	39 4 6
	Do. on tapping toddy trees.	.....	.....	1,310	85 2 0	...	.....	...	.....	1,310	85 2 0
	Tarwad bark	.....	.....	...	2,673 0 0	...	.....	...	.....	.....	2,673 0 0
	Babul pods	.....	.....	...	116 0 0	...	.....	...	.....	.....	116 0 0
	Banadurgi fruits	.....	.....	...	10 0 0	...	.....	...	.....	.....	10 0 0
	Mango fruits	.....	.....	...	32 14 0	...	.....	...	.....	.....	32 14 0
	Tamarind fruits ... ,,	.....	.....	...	3 10 9	...	.....	...	.....	...	3 10 9
	Karibantanaballi ... Loads.	.....	.....	2	0 2 0	...	.....	...	.....	2	0 2 0
	Marking nuts	.....	.....	...	13 5 0	...	.....	...	.....	.....	13 5 0
	Honey	.....	.....	...	125 4 0	...	.....	...	.....	.....	125 4 0
	Green leaves ... ...Loads.	.....	.....	3	0 3 0	...	.....	...	.....	3	0 3 0
	Total ...	.....	56 0 0	...	4,051 10 3	...	.....	...	.....	.....	4,107 10 3
Kárwár	Stones ... ... C. ft.	.....	.....	117,111	1,690 14 10	...	.....	...	.....	117,111	1,690 14 10
	Earth ... ... ,,	.....	.....	20,049	111 14 3	...	.....	...	.....	20,049	111 14 3
	Thorns ... ... ,,	.....	.....	182	8 1 0	...	.....	...	.....	182	8 1 0
	Leaves ... Bullock-loads.	.....	.....	3	0 6 0	...	.....	...	.....	3	0 6 0
	Do. ... ... Head-loads.	.....	.....	1,151	71 15 0	...	.....	...	.....	1,151	71 15 0
	Fruit, Honey, Gum, &c.	.....	.....	...	1,171 8 0	...	.....	...	.....	.....	1,171 8 0
	Total ...	.....	.....	...	3,054 11 1	...	.....	...	.....	.....	3,054 11 1
Kánara	Harda, Shigekái, Apta, Temburni leaves	.....	.....	...	660 0 0	...	.....	...	.....	.....	660 0 0
Ratnagiri	Myrabollams	.....	.....	...	58 1 6	...	.....	...	.....	.....	58 1 6

Conservator's Office, Southern Circle:
Dated Belgaum, 18th October 1890.

J. L. L. MacGREGOR,
Conservator of Forests, Southern Circle.

FORM No. 56.

FOREST DEPARTMENT, BOMBAY, SOUTHERN CIRCLE.

Account of Timber and other Produce cut or collected by Government Agency and brought to Sale Depôt or sold locally during the year 1889-90.

Particulars.	No. or Quantity.	Cubic feet.	TOTAL OF EACH HEAD. No. or Quantity.	TOTAL OF EACH HEAD. Cubic feet.
TIMBER.				
BALANCE AT COMMENCEMENT OF THE YEAR.				
Northern Division of Kánara.				
Teakwood	4,231	119,635		
Do. round pieces	4,932	9,864		
Do. sleepers	3,021	4,500		
Do. slabs	14,716	4,460		
Blackwood	31	638		
Junglewood	416	8,641		
			27,347	147,738
Central Division of Kánara.				
Teakwood	...	21,666		
Blackwood	...	15		
Junglewood	...	11,576		
Miscellaneous pieces	...	34		
Teak round pieces	5,679	22,489		
Do. sleepers	2,283	3,881		
Do. slabs	7,946	5,959		
Do. poles	412	2,080		
Do. logs	1,537	39,236		
Round teak board	1	...		
Blackwood logs	103	1,837		
Junglewood do.	1,338	24,903		
Sitting boards	72	...		
			19,371	133,676
Southern Division of Kánara.				
Teak	411	7,965		
Blackwood	28	430		
Junglewood	800	13,817		
Teak poles	175	993		
Junglewood poles	17	54		
Sleepers	604	604		
Slabs	48,888	12,222		
Round teak sleeper pieces	310	465		
			51,233	36,550
Belgaum Division.				
Teak trees	15	225		
Do. poles	1	4		
Do. slabs	35	10		
Junglewood poles	1,313	533		
			1,364	772
Dhárwár Division.				
Teak rafters	4,979	20,350		
Matti do.	410	1,500		
Blackwood rafters	2	10		
Jiráiti pieces	16,263	13,000		
Miscellaneous rafters	142	500		
			21,796	35,360
Kolába Division.				
Teak poles and pieces	1,666	7,500		
Miscellaneous	211			
			1,877	7,500
Ratnágiri Division.				
Teak poles of different classes	1,771	10,000		
Miscellaneous pieces	690			
			2,461	10,000
Total Balance	...	...	125,449	371,596
RECEIVED FROM THE FORESTS IN DEPÔTS.				
Teak logs	12,610	241,813		
Do. poles	25,772	86,595		
Do. pieces	2,628	3,459		
Do. planks	24	38		
Do. poles of different classes	27,193	137,400		
Miscellaneous	8,604			
Teak round pieces for sleepers	4,097	16,229		
Teak rafters	6,022	23,000		
Branches from teak poles	477	729		
Blackwood logs	850	8,460		
Do. poles	91	383		
Do. pieces	70	184		
Junglewood logs	4,088	71,771		
Do. poles	10,585	11,284		
Do. pieces	450	1,845		
Adzed rectangular teak sleepers	9	18		
Matti rafters	481	1,500		
Blackwood rafters	17	60		
Jiráiti pieces	17,500	13,549		
			121,563	618,317

Particulars.	No. or Quantity.	Cubic feet.	TOTAL OF EACH HEAD. No. or Quantity.	TOTAL OF EACH HEAD. Cubic feet.
REMOVED BY PURCHASERS FROM DEPÔTS.				
Teak logs	13,202	267,196		
Do. round pieces	9,071	32,273		
Do. sleepers	3,660	5,854		
Do. slabs	17,079	7,637		
Do. pieces	2,223	2,477		
Do. poles	23,338	74,541		
Do. rafters	10,081	36,000		
Do. poles of different classes	27,596	139,992		
Miscellaneous poles	8,835			
Blackwood logs	454	6,318		
Do. poles	40	189		
Do. pieces	20	50		
Junglewood logs	3,752	66,344		
Do. poles	11,761	11,264		
Do. pieces	226	923		
Matti rafters	2,474	6,300		
Blackwood rafters	9	35		
Jiráiti pieces	21,935	16,895		
Miscellaneous pieces	...	1		
Sawn timber	...	17,088		
			155,851	690,317
SOLD LOCALLY.				
Teak	...	49		
Do. pieces	532	692		
Do. poles	338	509		
Blackwood	...	3		
Do. pieces	47	137		
Junglewood	...	461		
Do. pieces	453	985		
Casuarina poles	2,129	5,364		
Do. thin branches ... Stacks	1,169	12,590		
Miscellaneous pieces	8	...		
			4,676	20,790
CONVERTED IN DEPÔTS.				
Teak logs	66	1,478		
Do. slabs	15	3		
Blackwood logs	2	38		
Junglewood do.	108	2,044		
Sawn timber	...	1,332		
			191	4,895
USED BY THE DEPARTMENT.				
Teak logs	6	169		
Do. round pieces for sleepers	90	180		
Do. slabs	400	100		
Do. sleepers	3	5		
Do. rafters	1	5		
Sawn timber	...	94		
			500	553
TRANSFERRED TO OTHER SALE DEPÔTS.				
Teak logs	71	1,567		
Blackwood logs	2	38		
Junglewood do.	113	2,201		
			186	3,806
BALANCE AT CLOSE OF THE YEAR.				
Northern Division of Kánara.				
Teak logs	2,836	83,657		
Blackwood logs	59	1,195		
Junglewood do.	226	4,858		
Teak round pieces for sleepers	2,468	4,936		
Do. sleepers	1,447	2,170		
Do. slabs	10,959	3,491		
Do. pieces	41	85		
Do. planks	24	38		
			18,000	100,430
Central Division of Kánara.				
Teak round pieces	3,079	12,193		
Do. sleepers	601	1,021		
Do. logs	2,131	47,243		
Blackwood logs	469	3,373		
Junglewood do.	2,017	35,290		
Adzed rectangular teak sleepers	9	18		
Teak slabs	20,418	15,313		
Sitting boards	72	...		
Round teak board	1	...		
Teak poles	2,972	15,063		
Junglewood poles	154	607		
Blackwood do.	30	116		
Jiráiti pieces	2,476	2,144		
Miscellaneous pieces	...	83		
Sawn timber	...	16,919		
			34,429	149,363

FORM No. 56—*continued.*

Particulars.	No. or Quantity.	Cubic feet.	Total of each Head: No. or Quantity.	Total of each Head: Cubic feet.
Received from the Forests and sold locally.				
Teak	..	49		
Do. pieces	532	692		
Blackwood poles	338	509		
Blackwood	..	3		
Do. pieces	47	137		
Jungleblood	..	461		
Do. pieces	453	985		
Casuarina poles	2,129	5,364		
Do. from branches Stacks.	1,169	12,590		
Miscellaneous pieces	8	..		
			4,676	20,790
Received by conversion in Depots.				
Teak sleepers	407	669		
Do. logs	19,142	14,357		
Sundry timber	..	2,176		
			19,549	17,202
Received by transfer from Sale Depots.				
Teak logs	71	1,567		
Do. sleepers	2	38		
Jungleblood do.	113	2,201		
			186	3,806
Total ..	..	..	271,428	1,031,711

TIMBER—*continued.*

Particulars.	No. or Quantity.	Cubic feet.	Total of each Head: No. or Quantity.	Total of each Head: Cubic feet.
Southern Division of Kánara.				
Teak	457	8,892		
Blackwood	28	441		
Junglewood	512	10,245		
Teak poles	65	293		
Do. sleepers	604	604		
Do. slabs	41,856	10,464		
Do. round pieces for sleepers	310	465		
			43,832	31,404
Belgaum Division.				
Teak logs	1	14		
Teak pieces	359	897		
Do. poles from branches	477	729		
Blackwood poles	21	48		
Do. pieces	50	134		
Junglewood logs	27	351		
Do. pieces	224	922		
			1,159	3,095
Dhárwár Division.				
Teak .. .. Rafters.	2,315	7,000		
Matti do.	145	450		
Sissum do.	10	40		
Jiráiti pieces	6,370	4,600		
			8,840	12,090
Kolába Division.				
Teak pieces of different classes	479	} 2,500		
Miscellaneous	142	}		
			621	2,500
Ratnágiri Division.				
Teak poles of different classes	2,555	} 12,408		
Miscellaneous	528	}		
			3,083	12,408
Total Balance ..	..	..	110,024	311,290
Total ..	..	..	271,428	1,031,711

FIREWOOD.

Particulars.	No. or Quantity.	Cubic feet.	Total of each Head: No. or Quantity.	Total of each Head: Cubic feet.
Balance at commencement of the year.				
Northern Division of Kánara.				
Firewood .. .. .. Tons.	388	22,348		
Fuel .. .. .. Muras.	23	50		
			..	22,398
Central Division of Kánara.				
Firewood .. .. .. Stacks.	358	6,444	..	6,444
Southern Division.				
Firewood .. .. .. Stacks.	7,036	221,700	..	221,700
Belgaum Division.				
Firewood .. .. .. Stacks.	4,817	86,706	..	86,706
Total Balance ..	..	..	..	337,248
Received during the year.				
Firewood .. .. .. Tons.	400	23,040		
Do. .. .. .. Stacks.	..	1,080		
Do. .. .. .. Cart-loads.	24,502	599,767		
Charcoal .. .. .. Bags.	21	45		
Fuel .. .. .. Rg. ft.	3,640	2,184		
Lighting wood	3,025,890	1,876,051		
Ulkás	625	216		
			..	2,502,383
Received by transfer from Sale Depots.				
Firewood .. .. .. Head-loads.	644	28		
Do. Casuarina ... ,,	930	966		
			..	2,389
Total ..	..	..	..	2,842,020

Particulars.	No. or Quantity.	Cubic feet.	Total of each Head: No. or Quantity.	Total of each Head: Cubic feet.
Removed by Purchasers.				
Firewood .. .. .. Stacks.	23,536	560,692		
Do. .. .. Tons.	386	22,233		
Fuel .. .. .. Rg. ft.	3,025,890	1,876,051		
Lighting wood	3,640	2,184		
Firewood .. .. C. ft.	..	1,080		
Do. .. .. .. Cart-loads.	21	45		
Charcoal .. .. .. Muras.	23	50		
Ulkás	625	216		
			..	2,462,551
Sold locally.				
Firewood	..	28		
Do. .. .. .. Head-loads.	644	966		
Do. Casuarina ... ,,	930	1,395		
			..	2,389
Lost or written off as useless.				
Firewood .. .. .. Stacks.	585	17,670		
Do. .. .. Tons.	2	115		
			..	17,785
Balance at close of the year.				
Northern Division of Kánara.				
Firewood .. .. .. Tons.	400	23,040		
			400	23,040
Central Division of Kánara.				
Firewood .. .. .. Stacks.	38	684		
			38	684
Southern Division of Kánara.				
Firewood .. .. .. Stacks.	280	5,040		
			280	5,040
Belgaum Division.				
Firewood .. .. .. Stacks.	8,241	255,957		
			8,241	255,957
Dhárwár Division.				
Firewood .. .. .. Stacks.	4,143	74,574		
			4,143	74,574
Total Balance ..	..	..	..	359,295
Total ..	..	..	..	2,842,020

BAMBOOS.

Particulars.	No. or Quantity.	Cubic feet.	Total of each Head: No. or Quantity.	Total of each Head: Cubic feet.
Balance at commencement of the year.	1,500	..	1,500	..
Received during the year.	150	..	150	..
			1,650	..
Removed by Purchasers.				
Bamboos	1,500	..	1,500	..
Sold Locally.				
Bamboos	150	..	150	..
Total ..	..	..	1,650	..

FORM No. 56—*concluded.*

Particulars.	No. or Quantity.		Total of each Head. No. or Quantity.		Particulars.	No. or Quantity.		Total of each Head. No. or Quantity.	
					SANDALWOOD.				
Balance at commencement of the year.					Removed by Purchasers.				
Northern Division of Kánara.					Trees	6	..		
Trees	153	..			Sandalwood .. .. .. Khandis.	..	98-3-12-36		
Central Division of Kánara.			153	..	Billets	1,012	18 6 5		
Trees .. .. Khandis.	..	4 16 14			Roots	359	..		
Southern Division of Kánara.			..	4 16 14	Sawdust	..	3 1 8		
Trees .. .. Khandis.	..	36 13 25			Bark and branches .. .. C. ft.	..	40		
Dhárwár Division.			..	36 13 25	Chips .. .. Khandis.	..	2 5 0		
Roots	440	..			Do., ... Cart-loads.	5½	..		
Chips and sawdust	..	3 1 3			Oil .. .. Tolas.	24	..		
			440	3 1 3	Sold locally.			..	Khandis 121-15-20-36 & 40 C. ft.
Total Balance ..	..	..	..	44 11 14	Sandalwood pieces	47	..	47	..
Received during the year.					Converted in Depôts.				
Trees	66	..			Trees	213	..		
Sandalwood .. .. Khandis.	..	58 0 13			Sandalwood .. .. .. Khandis.	..	1 0 0	213	1 0 0
Chips and sawdust	..	2 5 0			Balance at close of the year.				
Do. .. .. Cart-loads	8½	..			*Northern Division of Kánara.*				
Billets	1,012	18 6 5			Billets	994	..	994	..
Roots	259	..			*Southern Division of Kánara.*				
			..	78 11 18	Sandalwood .. .. .. Khandis.	..	0-7-11-4		
Received from the Forests and sold locally.					Do. oil .. .. Tolas.	511	..	511	0-7-11-4
Sandalwood pieces	47	..			*Dhárwár Division.*				
			47	..	Roots	340	..		
Received by conversion in Depôts.					Sawdust .. .. .. Cart-loads.	¾	..		
Billets	994	..			Chips .. .. ,,	2	..		
Bark and branches .. .. C. ft.	..	40						342¾	..
Oil .. .. Tolas.	535	..			Total Balance ..	..	..	..	0-7-11-4
			..	40					
Total ..	..	..	..	Khandis. 123-3-4 and 40 C. ft.	Total ..	..	..	..	Khandis 123-3-4 & 40 C. ft.
					GRASS AND OTHER MINOR PRODUCE.				
Balance at commencement of the year.					Removed by Purchasers.				
Northern Division of Kánara.					Myrabollams .. .. Khandis.	..	11,102-1-15		
Myrabollams .. .. .. Baskets.	12,319	..			Do. .. .. Baskets.	12,371½	..		
			12,319	..	Shigekái .. .. .. Khandis.	..	41 17 22		
Central Division of Kánara.					Grass .. .. .. Bundles.	15,475	..		
Myrabollams .. .. .. Khandis.	..	93 2 15			Sold locally.			..	11,143-19-9
Shigekái .. .. .. do.	..	3 8 14			Canes .. .. .. Head-loads.	3	..		
Grass .. .. Bundles.	147,444	..						3	..
			147,444	96 11 1	Used by the Department.				
Southern Division of Kánara.					Grass .. .. Bundles.	35,201	..		
Myrabollams .. .. .. Khandis.	..	726 18 16						35,201	..
			..	726 18 16	Lost or written off as useless.				
Belgaum Division.					Allowance on account of dust on Myrabollams .. .. .. Khandis.	..	0 11 3		
Myrabollams .. .. .. Khandis.	..	45 19 21						..	0 11 3
			..	45 19 21	Balance at close of the year.				
Dhárwár Division.					*Northern Division of Kánara.*				
Myrabollams .. .. .. Baskets.	41½	..			Myrabollams .. .. .. Baskets.	116½	..		
			41½	..	Do. .. .. Khandis.	..	274 0 0		
Total Balance ..	..	..	..	869 9 10				116½	274 0 0
Received from the Forests in Depôts.					*Central Division of Kánara.*				
Myrabollams .. .. .. Khandis.	..	10,961-15-19			Shigekái .. .. Khandis.	..	1 15 7		
Do. .. .. Baskets.	1,217½	..			Grass .. .. Bundles.	182,168	..		
Shigekái .. .. .. Khandis.	..	40 12 15						182,168	1 15 7
Grass .. .. Bundles.	85,400	..			*Southern Division of Kánara.*				
			..	11,002-8-6	Myrabollams .. .. .. Khandis.	..	424 12 25		
Received from the Forests and sold locally.					Shigekái .. .. ,,	..	0 8 0		
Canes .. .. .. Head-loads	3	..						..	425 0 25
			3	..	*Belgaum Division.*				
					Myrabollams .. .. .. Khandis.	..	26 11 0		
								..	26 11 0
					Total Balance ..	..	..	..	727 7 4
Total ..	..	..	..	11,871-17-16	Total ..	..	..	..	11,871-17-16

Conservator's Office, Southern Circle:
Dated Belgaum, 18th October 1890.

J. L. L. MacGREGOR,
Conservator of Forests, Southern Circle.

B 911—8 SC

FORM No. 57.

FOREST DEPARTMENT, BOMBAY, SOUTHERN CIRCLE.

Abstract showing the Value of Timber and other Produce at Sale Depôts for the year 1889-90.

Description of Timber and other Produce.	On hand at commencement of the year.			On hand at close of the year.			Difference in Value.		Remarks.
	No.	Cubic feet.	Value.	No.	Cubic feet.	Value.	In favour of the year.	Against the year.	
			Rs. a. p.			Rs. a. p.	Rs. a. p.	Rs. a. p.	
TIMBER.									
Northern Division of Kánara.									
[illegible] wood	4,231	119,635	1,76,476 0 0	2,836	83,657	1,20,518 0 0	.....	55,958 0 0	
[illegible] wood	31	638	756 0 0	59	1,195	1,349 0 0	593 0 0	.....	
[illegible] wood	416	8,641	8,667 0 0	226	4,358	5,052 0 0	... ..	3,615 0 0	
[illegible] round pieces	4,932	9,864	9,864 0 0	2,468	4,936	3,085 0 0	.....	6,779 0 0	
[illegible] sleepers	3,021	4,500	6,042 0 0	1,447	2,170	2,200 0 0	... ..	3,842 0 0	
[illegible] slabs	14,716	4,460	1,470 0 0	10,959	3,491	1,090 0 0	.....	380 0 0	
[illegible] poles	...	...	.....	41	85	28 0 0	28 0 0	.....	
[illegible] planks	...	...	.....	24	38	12 0 0	12 0 0	.....	
Total ...	...	...	2,03,275 0 0	.....	...	1,33,334 0 0	633 0 0	70,574 0 0	
Central Division of Kánara.									
[illegible]	2,978	65,976	77,852 0 0	4,617	85,906	84,220 0 0	6,368 0 0	.....	
[illegible] round pieces	5,679	22,489	28,395 0 0	3,079	12,393	6,214 0 0	.....	22,181 0 0	
[illegible] sleepers	2,283	3,881	4,566 0 0	610	1,039	1,432 0 0	.....	3,134 0 0	
[illegible] slabs	7,946	5,959	318 0 0	20,418	15,313	1,191 0 0	873 0 0	.....	
[illegible] poles	412	2,080	765 0 0	2,972	15,063	5,431 0 0	4,666 0 0	.....	
Sawing boards	72	...	10 0 0	72	...	10 0 0	.....	.....	
Miscellaneous scantlings	...	33,291	66,582 0 0	.....	16,952	8,476 0 0	.....	58,106 0 0	
[illegible] teak board	1	...	0 5 0	1	...	0 5 0	.....	.....	
[illegible] wood poles	...	...	.....	154	607	72 0 0	72 0 0	.....	
[illegible] wood poles	...	...	.....	30	146	23 0 0	23 0 0	.....	
Firewood pieces	...	...	.....	2,476	2,144	619 0 0	619 0 0	.....	
Total ...	...	...	1,78,488 5 0	.....	...	1,07,688 5 0	12,621 0 0	83,421 0 0	
Southern Division of Kánara.									
[illegible] wood	411	7,965	10,833 0 0	457	8,892	12,226 0 0	1,393 0 0	.....	
[illegible] wood	28	430	400 0 0	28	441	379 0 0	.....	21 0 0	
[illegible] wood	800	13,817	11,053 0 0	512	10,245	10,245 0 0	.....	808 0 0	
[illegible] poles	175	993	397 0 0	65	293	128 0 0	.....	269 0 0	
[illegible] wood poles	17	54	10 0 0	.....	...	.....	.....	10 0 0	
[illegible] round pieces	310	465	.....	310	465	116 0 0	116 0 0	.....	
[illegible] sleepers	604	604	1,208 0 0	604	604	1,208 0 0	.....	.....	
[illegible] slabs	48,888	12,222	1,956 0 0	41,856	10,464	1,674 0 0	.....	282 0 0	
Total ...	...	...	25,857 0 0	.....	...	25,976 0 0	1,509 0 0	1,390 0 0	
Belgaum Division.									
[illegible] trees	15	225	135 0 0	.....	...	.....	.....	135 0 0	
[illegible] slabs	35	...	5 4 0	.....	...	.....	.....	5 4 0	
[illegible] poles	1	4	4 0 0	.....	...	.....	.....	4 0 0	
[illegible] wood poles	1,313	533	288 7 0	.....	...	.....	.....	288 7 0	
[illegible] poles from branches ...	...	...	.....	.....	...	.....	.....		
[illegible]	...	...	.....	477	729	276 15 0	276 15 0	.....	
[illegible]	...	...	.....	1	14	14 0 0	14 0 0	.....	
[illegible] sleepers	...	...	.....	359	897	389 8 0	389 8 0	.....	
[illegible] pieces	...	...	.....	27	351	16 4 0	16 4 0	.....	
[illegible]	...	...	.....	224	922	191 8 0	191 8 0	.....	
[illegible]	...	...	.....	21	48	10 4 0	10 4 0	.....	
Total ...	...	...	432 11 0	50	134	26 8 0	26 8 0	.....	
[illegible] Division.				.....	...	924 15 0	924 15 0	432 11 0	
[illegible]	4,979	20,350							
[illegible]	410	1,500	13,000 0 0	2,315	7,000	6,000 0 0	.....	7,000 0 0	
[illegible]	142	500		145	450				
[illegible]	2	10		.....	...				
[illegible]	16,269	13,000	10,000 0 0	10	40				
Total ...	...	...	23,000 0 0	6,370	4,600	4,000 0 0	.....	6,000 0 0	
[illegible] Division.				.....	...	10,000 0 0	.....	13,000 0 0	
[illegible] Miscellaneous pieces.	1,877	7,500	750 0 0	621	2,500	250 0 0	.....	500 0 0	
[illegible] Division.									
[illegible]	2,461	10,060	575 0 0	3,083	12,408	1,000 0 0	425 0 0	.....	
Total, Timber ...	...	...	4,32,378 0 0	.....	...	2,79,173 4 0	16,112 15 0	1,69,317 11 0	
FIREWOOD.									
[illegible] of Kánara.									
[illegible] ...	Tons. 388	22,348	2,440 0 0	400	23,040	2,525 0 0	85 0 0	.....	
	Mds. 23	50	6 0 0	.....	...	.....	.....	6 0 0	
Total ...	...	...	2,446 0 0	.....	...	2,525 0 0	85 0 0	6 0 0	
[illegible] of Kánara.									
Stacks.	358	6,444	264 0 0	38	684	28 0 0	.....	236 0 0	

FORM No. 57—*continued.*

Description of Timber and other Produce.	On hand at commencement of the year.			On hand at close of the year.			Difference in Value.		Remarks.
	No.	Cubic feet.	Value.	No.	Cubic feet.	Value.	In favour of the year.	Against the year.	
			Rs. a. p.			Rs. a. p.	Rs. a. p.	Rs. a. p.	
FIREWOOD—*continued.*									
Southern Division of Kánara.									
Firewood ... ... Stacks.	...	...	.....	280	5,040	210 0 0	210 0 0	.....	
Belgaum Division.									
Firewood ... ... Stacks.	7,036	221,700	7,036 0 0	8,241	255,957	11,743 6 0	4,707 6 0	.....	
Dhárwár Division.									
Firewood ... ... Stacks.	4,817	86,706	4,817 0 0	4,143	74,574	4,143 0 0	.....	674 0 0	
Total, Firewood ...	...	...	14,563 0 0	.....	...	18,649 6 0	5,002 6 0	916 0 0	
BAMBOOS.									
Belgaum Division.									
Bamboos	1,500	...	36 0 0	.....	...	.....	.....	36 0 0	
SANDALWOOD.									
Northern Division of Kánara.									
Trees	153	...	200 0 0	.....	...	.....	.....	200 0 0	
Billets	...	...	.....	994	...	1,800 0 0	1,800 0 0	.....	
Total ...	...	...	200 0 0	.....	...	1,800 0 0	1,800 0 0	200 0 0	
Central Division of Kánara.									
Sandalwood ... ... Khandis.	...	K. m. s. 14 16 14	480 0 0	.....	...	.....	.....	480 0 0	
Southern Division of Kánara.									
Sandalwood ... ... Khandis.	...	36 13 25	2,800 0 0	.....	0 7 11 4	47 0 0	.....	2,753 0 0	
Sandal oil ... ... Tolás.	...	...	.....	511	...	96 0 0	96 0 0	.....	
Total ...	...	...	2,800 0 0	.....	...	143 0 0	96 0 0	2,753 0 0	
Dhárwár Division.									
Roots	440	...	100 0 0	340	...	100 0 0	.....	.....	
Chips and Sawdust ... Khandis.	...	K. m. s. 3 1 3	60 0 0	2¾ Cart-loads.	...	35 0 0	.....	25 0 0	
Total ...	...	...	160 0 0	.....	...	135 0 0	.....	25 0 0	
Total, Sandalwood ...	...	...	6,600 0 0	.....	...	2,356 0 0	1,992 0 0	6,236 0 0	
MINOR PRODUCE.									
Northern Division of Kánara.									
Myrabollams ... ... Khandis.	...	73	703 0 0	.....	274	2,740 0 0	2,037 0 0	.....	
Do. ... ... Baskets.	...	...	.....	116¼	...	100 0 0	100 0 0	.....	
Total ...	...	...	703 0 0	.....	...	2,840 0 0	2,137 0 0	.....	
Central Division of Kánara.									
Myrabollams ... ... Khandis.	...	K. m. s. 93 2 15	950 0 0	.....	...	.....	.....	950 0 0	
Shigekái ... ... ,,		3 8 14	60 0 0	.....	K. m. s. 1 15 7	20 0 0	.....	40 0 0	
Grass ... ... Bundles.	147,444	...	530 0 0	182,168	...	598 0 0	68 0 0	.....	
Total ...	...	...	1,540 0 0	.....	...	618 0 0	68 0 0	990 0 0	
Southern Division of Kánara.									
Myrabollams ... ... Khandis.	...	727	7,270 0 0	.....	425	4,465 0 0	.....	2,805 0 0	
Shigekái ... ... ,,	...	...	.....	.....	K. m. s. 0 8 0	10 0 0	10 0 0	.....	
Total ...	...	...	7,270 0 0	.....	...	4,475 0 0	10 0 0	2,805 0 0	
Belgaum Division.									
Myrabollams ... ... Khandis.	...	45 19 21	425 0 0	.....	26 11 0	264 0 0	.....	161 0 0	
Dhárwár Division.									
Myrabollams ... ... Baskets.	41½	...	30 0 0	.....	...	.....	.....	30 0 0	
Total, Minor Produce ...	...	...	19,481 0 0	.....	...	16,130 0 0	4,430 0 0	7,781 0 0	
Grand Total ...	...	...	4,73,058 0 0	.....	...	3,16,308 10 0	27,537 5 0	1,84,286 11 0	

Conservator's Office, Southern Circle:
Dated Belgaum, 18th October 1890.

J. L. L. MacGREGOR,
Conservator of Forests, Southern Circle.

FORM No. 57A.

FOREST DEPARTMENT, BOMBAY, SOUTHERN CIRCLE.

Abstract showing the value of Live and Dead Stock for the year 1889-90.

Description of Live and Dead Stock.	On hand at commencement of the year.		On hand at close of the year.		Difference in value.		Remarks.
	Number.	Value.	Number.	Value.	In favour of the year.	Against the year.	
Direction.							
Office tent, 13 × 13 new ...	1	450	1	450	...	...	
Do. do. old ...	1	450	1	450	...	...	
Tools, plant and office furniture.	...	250	...	279	*a* 29	...	*a* Cost of a teak box for maps.
Total ...	...	1,150	...	1,179	29	...	
Northern Division of Kánara.							
Forest bungalow at Haliyál ...	1	2,700	1	2,700	...	...	
Range forest office at do. ...	1	900	1	900	...	...	
Forest nákás	12	9,815	12	9,815	...	...	
Divisional forest office at Haliyál.	...	...	1	350	350	...	
Forest bungalow at Kadra ...	1	8,100	1	8,100	...	...	
Kodibág depôt-house	1	4,960	1	4,960	...	..	
Hill tent	1	350	1	350	...	...	
Tools, plant and office furniture .	...	2,794	...	2,887	93	...	
Total ...	...	29,619	...	30,062	443	...	
Central Division of Kánara.							
Forest bungalows at Yellápur ...	2	3,050	2	3,050	...	...	
Workshop at do. ...	1	114	1	114	...	...	
Rest-house at Kolikeri	1	908	1	908	...	...	
Náká-houses	11	3,351	14	4,201	850	...	
Old range office at Yellápur ...	1	250	1	250	...	...	
Rest-house at Ramanguli ...	1	150	1	150	...	...	
Tent	1	350	1	350	...	...	
Tools, plant and office furniture ,	...	5,126	...	4,033	...	1,093	
Buffaloes and bullocks	*b* 39	1,393	...	...	...	1,393	*b* 36 were transferred to the Belgaum Division, and 3 died.
Total ...	...	14,692	...	13,056	850	2,486	
Kánara Saw Mills.							
Engines, portable, 12 H-P. ...	2		...	...	...		Sold.
Anvils	2		...	...	...		Do.
Small circular saw benches ...	2		...	...	...		Do.
Crabwinch	2		2	100	...		What they would fetch if now sold.
Sawframe, horizontal, with 16 old saws.	1		1	20	...		Do. do.
Forges, portable...	1		1	25	...		Do. do.
Quern	1	40,716	...	...	...	40,546	Sold.
Hauling machine	1		1	25	...		What it would fetch if now sold.
Lathe	1		...	...	...		Sold.
Rack, circular	1		...	...	...		Do.
Saw-sharpening machines ...	2		...	..	...		Do.
Corrugated roof-shed	1		...	...	...		Do.
Vice	1		...	...	...		Do.
Engine, portable, 12 H-P. ...	1		...	...	...		Do.
Bench, cross-cutting	1	9,958	...	...	...	9,958	Do.
Saw-sharpening machine ...	1		...	...	...		Do.
Vertical saw frame with 12 new and 24 old saws.	1	3,375	...	...	...	3,375	Do.
Engine, portable, 12 H-P. ...	1	3,960	1	*c* 2,000	...	1,960	*c* What it would fetch if now sold.
Benches, small circular saws ...	2	1,249	...	...	...	1,249	Sold.
Anvils	2	52	2	*d* 40	...	12	*d* What they would fetch if now sold.
Intermediate shaft	1	75	...	...	...	75	Sold.
Other stores and furniture ...	...	5,547	...	*e* 140	...	5,407	*e* The rest of the materials have been sold.
Total ...	...	64,932	...	2,350	...	62,582	All the articles shown as sold above fetched Rs. 7,278.

FORM No. 57A—*continued.*

Description of Live and Dead Stock.	On hand at commencement of the year.		On hand at close of the year.		Difference in value.		Remarks.
	Number.	Value.	Number.	Value.	In favour of the year.	Against the year.	
Southern Division Kánara.							
Office Building at Sirsi... ...	1	950	1	1,717	767	...	
Depôt-house at do.	1		1	1,119	..	...	
Forest nákás	*f* 19	6,521	20	5,402	300	...	*f* The number of nákás entered in column "on hand at close of the year" of the last year's statement, was incorrect, but the value (Rs. 6,521), shown therein included the cost of 19 nákás and of the Depôt and Rest-houses, now correctly shewn.
Rest-house at Bilki	1		1	300	...	...	
Office tent	1	350	1	350	...	...	
Tools, plant and office furniture.	...	3,068	...	3,114	46	...	
Total ...	...	10,889	...	12,002	1,113	...	
Belgaum Division.							
Tent	1	300	1	300	...	...	
Rest-house	1	2,500	1	2,500	...	...	
Nákás	15	6,120	16	6,680	560	...	
Buffaloes...	*g* 36	1,296	...	...	...	1,296	*g* Received from the Central Division of Kánara, out of which 6 died and the rest were sold for Rs. 806-8-0.
Tools, plant and office furniture.	...	*h* 2,822	...	3,015	193	...	*h* The difference of Rs. 33 between this item and the similar one in last year's form in column "on hand at close of the year" is owing to certain discrepancy now rectified.
Total ...	...	13,038	...	12,495	753	1,290	
Dhárwár Division.							
Rest-house	1	800	1	800	...	...	
Watch-houses	9	2,700	9	2,700	...	...	
Depôt-houses	2	250	...	...	...	250	These depôt-houses were pulled down, and the material sold.
Tents	2	380	2	380	...	...	
Tools, plant and office furniture.	...	3,095	...	3,112	17	...	
Total ...	...	7,225	...	6,992	17	250	
Bijápur Division.							
Office tent	1	150	1	150	...	...	
Tools, plant and office furniture.	...	812	...	812	...	...	
Total ...	...	962	...	962	...	...	
Kolába Division.							
Hill tent	1	250	1	250	...	...	
Forest boat with fittings ...	1	1,278	1	*i* 300	...	978	*i* What it would fetch if sold now.
Tools, plant and office furniture.	...	574	...	1,202	628	...	
Bullock	2	30	1	30	...	...	
Total ...	...	2,132	...	1,782	628	978	
Ratnágiri Division.							
Office tent	1	200	1	200	...	...	
Tools, plant and office furniture.	...	*j* 180	...	205	25	...	*j* The difference of Rs. 7 between this item and that shown in last year's statement in column "on hand at close of the year" is owing to a mistake in the Divisional return, now rectified.
Total ...	...	380	...	405	25	...	

Conservator's Office, Southern Circle:
Dated Belgaum, 18th October 1890.

J. L. L. MacGREGOR,
Conservator of Forests, Southern Circle.

FORM No. 58.

FOREST DEPARTMENT, BOMBAY, SOUTHERN CIRCLE.

Summary of Revenue and Expenditure of the different Divisions during the year 1889-90.

Budget Heads.	Direction.	Belgaum Division.	Bijápur Division.	Dhárwár Division.	Northern Division of Kánara.	Southern Division of Kánara	Central Division of Kánara.	Ratnágiri Division	Kolába Division.	Total.
REVENUE.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a p.	Rs. a. p.
I.—Timber and other produce removed from the Forests by Government Agency—										
a. Timber	.....	17,251 14 11	.....	37,834 11 11	3,39,273 4 1	32,977 2 9	1,19,230 8 6	10,320 4 1	6,763 15 9	5,63,651 14 0
b. Firewood and charcoal ...	.....	2,03,075 7 2	.....	7,603 14 0	2,583 5 11	315 0 0	235 8 0	233 6 9	423 4 6	2,14,469 14 4
c. Bamboos	.....	30 12 0	.....	.....	0 11 0	.....	.....	.....	.....	31 7 0
d. Sandalwood	.....	25 9 6	0 10 6	5,838 0 7	6 2 0	7,981 3 2	2,929 12 2	.....	.....	16,781 5 11
e. Grass and other minor produce.	.....	57,613 2 6	.....	52 9 0	18,990 1 5	34,710 2 2	4,468 14 0	58 1 6	1 10 3	1,15,894 8 10
II.—Timber and other produce removed from the Forests by Consumers or Purchasers—										
a. Timber	.....	9,125 5 8	1,640 4 0	815 10 3	17,932 15 10	23,023 0 3	14,643 11 3	784 13 4	90,655 0 0	1,58,620 12 7
b. Firewood and charcoal ...	.....	6,803 1 9	9,668 6 6	755 5 7	19,154 2 8	2,185 3 4	9,322 9 0	53 14 0	26,626 1 9	74,568 12 7
c. Bamboos	.....	7,851 7 5	12 0 0	5,964 6 0	38,976 7 0	1,086 7 6	14,338 8 4	.....	.....	68,229 4 3
d. Grazing and fodder grass ...	.....	23,693 2 5	6,594 12 0	16,133 1 6	6,491 11 8	9,319 6 6	6,680 6 2	331 12 11	2,120 2 6	71,364 7 8
e. Other minor produce	... ..	3,403 8 9	4,618 5 0	2,699 1 0	2,176 7 1	8,552 8 6	4,999 15 0	10 4 9	830 2 9	27,290 4 10
III.—Confiscated, Drift and Waif Wood.	.....	196 0 10	35 7 3	10 6 0	247 15 8	685 6 7	165 1 1	254 12 9	598 2 10	2,193 5 0
VI—Revenue from Forests not managed by Government—										
a. Duty on foreign timber and other forest produce... ...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
b. Revenue from shared and private forests	.....	.....	.....	.....	.....	.....	.....	8 2 10	205 6 8	213 9 6
V.—Miscellaneous—										
a. Fines and forfeitures	.....	897 2 0	335 8 0	.....	218 13 1	356 9 11	124 12 4	85 12 7	1,458 4 1	3,476 14 0
b. Refunds...	.....	0 8 0	.....	1 8 0	139 11 7	1 7 0	45 0 0	... ..	.....	188 2 7
c. Other sources	.....	1,724 0 10	54 0 3	963 2 8	4,428 5 6	220 0 7	515 8 8	2 2 0	793 13 2	8,701 1 8
Total Revenue ...	.....	3,31,691 3 9	22,959 5 6	78,671 12 6	4,50,620 2 6	1,21,413 10 3	1,77,700 2 6	12,143 7 6	1,30,476 0 3	13,25,675 12 9

EXPENDITURE.

A.—Conservancy and Works.

I.—Timber and other Produce removed from the Forests by Government Agency—										
a. Timber	.....	5,148 9 4	5 4 6	5,448 15 0	1,05,765 6 4	6,022 9 2	46,878 5 0	2,040 2 3	1,121 1 4	1,72,430 4 11
b. Firewood and charcoal ...	.....	92,137 10 7	11 6 0	3,447 14 11	1,325 0 0	250 3 2	17 1 0	.....	.....	97,189 3 8
c. Bamboos	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
d. Sandalwood	.....	2 4 0	.....	397 11 11	225 7 6	989 12 7	222 10 0	.....	.....	1,837 14 0
e. Grass and other minor produce	.....	18,265 1 7	.....	1 6 0	10,109 13 3	14,429 10 4	2,573 5 5	9 11 1	.....	45,388 15 8
II.—Timber and other Produce removed from the Forests by Consumers or Purchasers	.....	1,450 4 9	4 8 0	1,301 2 4	526 12 6	830 7 3	616 0 9	.....	1,118 4 1	5,847 7 8
III.—Confiscated, Drift, and Waif Wood.	.....	2 12 0	0 9 0	.....	28 3 8	16 11 0	2 2 0	11 10 8	12 12 9	74 13 1
IV.—Revenue from Forests not managed by Government—										
a. Duty on foreign timber and other forest produce	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
b. Revenue from shared and private forests...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
V.—Rent of Leased Forests and Payments to Shareholders in Forests managed by Government	.....	.....	.....	.....	.....	.....	.....	28 2 3	5,203 1 5	5,231 3 8
VI.—Live Stock, Stores, Tools and Plant—										
a. Purchase of cattle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
b. Feed and keep of cattle ...	.....	228 15 6	.....	.....	.....	.....	205 2 10	.....	48-15 0	483 1 4
c. Stores, tools and plant ...	.....	38 7 0	4 3 6	3 0 0	122 5 3	3 8 0	347 12 4	.....	575 10 0	1,094 14 1
VII.—Communications and Buildings—										
a. Roads and bridges	.....	.....	.....	.....	42 10 0	57 3 0	447 2 6	25 6 3	.....	572 5 9
b. Buildings	.....	789 0 3	20 0 0	308 11 6	1,052 4 1	1,066 6 5	1,423 15 8	7 1 6	18 0 0	4,685 7 5
c. Other works	.....	22 1 0	.....	.....	34 11 0	179 14 6	.....	.....	.....	236 10 6
VIII.—Demarcation, Improvement and Extension of Forests—										
a. Demarcation	.....	877 4 8	.....	1 11 0	3,484 3 2	407 7 7	4,038 1 0	63 12 0	797 6 8	9,669 14 1
b. Compensation for land and rights	.....	.....	2 12 2	.....	.....	.....	.....	.....	.....	2 12 2
c. Surveys and working plans ..	.....	19 14 0	224 8 0	7,245 15 6	30,687 9 7	.....	.....	24 2 9	2,473 0 7	40,675 2 5
d. Plantations	.....	64 11 0	260 3 10	1,639 4 0	865 11 9	224 5 6	284 10 10	85 10 6	4 10 0	3,429 3 5
e. Protection from fire	.....	1,444 5 0	227 0 5	464 15 6	4,218 11 3	295 5 6	1,236 8 4	.....	629 0 3	8,515 14 3
f. Other works	.....	.....	9 12 9	.....	.....	.....	.....	.....	.....	9 12 9
IX.—Miscellaneous—										
a. Refunds	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
b Law charges	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
c. Other charges	.....	233 3 5	15 9 0	23 1 6	113 5 11	340 4 5	56 13 5	.....	1,168 4 1	1,950 9 9
Total, A.—Conservancy and Works ..	.....	1,20,724 8 1	785 13 2	20,283 13 2	1,58,602 3 3	25,113 12 5	58,349 11 1	2,295 11 3	18,170 2 2	3,99,325 10 7

FORM No. 58—*continued.*

Budget Heads.	Direction.	Belgaum Division.	Bijápur Division.	Dhárwár Division.	Northern Division of Kánara.	Southern Division of Kánara.	Central Division of Kánara.	Ratnágiri Division.	Kolába Division.	Total.
EXPENDITURE—*continued.*	Rs. a. p.	Rs a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p	Rs. a. p.
B.—ESTABLISHMENTS.										
I.—Salaries—										
a. Conservators	12,502 11 0	.....	.....	.....	.....	.....	.....	.....	.....	12,502 11 0
b. Superior Officers	302 8 10	6,705 0 0	4,715 10 0	9,829 0 6	20,556 8 1	7,350 0 0	3,000 0 0	1,200 0 0	7,000 0 0	60,658 11 5
c. Subordinate Forest and Depôt Establishments	.....	21,480 5 5	7,487 7 3	12,221 1 10	17,392 5 0	10,460 8 8	12,291 5 0	5,561 4 11	19,888 7 5	1,06,782 13 6
d. Office Establishments... ...	6,247 12 11	2,307 12 9	864 0 0	1,761 14 9	3,564 13 3	2,603 10 1	3,153 15 0	761 8 9	2,188 0 9	23,453 8 3
e. Deputation and Special Allowances	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
II.—Travelling Allowances—										
a. Conservators	2,455 6 6	.....	.....	.....	.....	.....	.....	.....	.....	2,455 6 6
b. Superior Offi...	149 9 2	1,872 0 0	1,362 9 6	1,800 0 0	6,349 10 3	2,100 1 0	1,345 11 4	.....	1,856 8 0	16,836 1 3
c. Subordinat... Depôt Estabh...	.....	971 7 11	259 13 0	1,167 0 4	1,651 9 1	611 3 11	719 9 4	540 14 5	988 15 0	6,910 9 0
d. Office ...nts... ...	2,174 6 3	685 12 6	319 7 9	572 3 2	1,270 12 11	884 11 4	773 5 11	369 7 4	601 11 2	7,651 14 4
III.—Contingencies—										
a. Stationery	0 10 0	235 4 11	96 8 6	166 13 1	197 4 2	412 8 10	288 12 4	95 2 0	207 4 6	1,700 4 4
b. Carriage of tents and records...	366 5 6	124 14 0	102 10 6	128 1 6	362 0 2	94 6 0	614 15 3	111 5 3	185 6 6	2,090 0 8
c. Rents, rates and taxes ...	200 0 0	382 0 0	66 0 0	75 3 1	17 13 0	.....	240 0 0	251 2 0	102 0 0	1,334 2 1
d. Pay of Police guards	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
e. Official postage	211 10 0	367 0 6	115 9 0	311 0 6	273 5 0	378 8 0	406 1 6	150 1 0	286 11 0	2,499 14 6
f. Sundries	195 1 1	944 0 9	433 4 1	911 4 8	807 7 7	670 4 9	576 14 9	304 11 1	1,298 7 11	6,141 8 8
Payments to officers of other provinces'	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total, B.—Establishments ...	24,806 1 3	36,075 10 9	15,822 15 7	28,943 11 5	52,443 8 6	25,565 14 7	23,410 10 5	9,345 8 9	34,603 8 3	2,51,017 9 6
GRAND TOTAL OF EXPENDITURE ...	24,806 1 3	1,56,800 2 10	16,608 12 9	49,227 8 7	2,11,045 11 9	50,679 11 0	81,760 5 6	11,641 4 0	47,773 10 5	6,50,343 4 1

No. $\frac{F.}{14831.}$

Forwarded to the Conservator of Forests, Southern Circle, under Section 238 of the Forest Department Code.

Bombay, Accountant General's Office:
Dated 12th August 1890.

R. LOGAN,
Accountant General.

S 911—10 sc

FORM No. 59.

FOREST DEPARTMENT, BOMBAY, SOUTHERN CIRCLE.

Account Current for the year 1889-90.

Dr. *Cr.*

	Rs. a. p.	Rs. a. p.		Rs. a. p.	Rs. a. p.
To Cash Balance	.....	281 4 9	By 1. Refunds and Drawbacks—		
„ VIII.—Assessed Taxes—Income Tax—			Refunds—Divided Heads—		
Deductions by Government from Salaries and Pensions. ...	.....	2,307 11 1	Forests	.....	3,913 1 6
„ IX.—Forest	.....	13,25,675 12 9	„ 11. Forest	.....	6,50,343 4 1
„ XII.—Interest—			„ Revenue Deposits—Forest	.....	32,198 2 11
Interest on arrears of Revenue	.....	126 0 10	„ Advances Recoverable—		
„ Revenue Deposits, Forests	.....	32,661 8 6	Forest Advances	3,61,814 12 3	
„ Advances Recoverable—			Objection Book Advances	2,938 9 5	
Forest Advances	3,44,187 14 3				3,64,753 5 8
Objection Book Advances	2,343 10 10		„ Cheques and Bills—		
Tentage Advances	160 0 0		Departmental Cheques—		
		3,46,691 9 1	Forest Cheques cancelled	.....	3,923 6 7
„ Cheques and Bills—Departmental Cheques—			„ Forest Remittances—		
Forest Cheques drawn		6,62,261 8 0	Remittance to Treasuries	11,36,634 6 7	
„ Forest Remittances—	.....		Inter-divisional Transfers	59,024 10 3	
Remittances to Treasuries	337 2 6		Inter-departmental Transfers	2,275 14 6	
Inter-divisional Transfers	93,188 4 6				11,97,934 15 4
Inter-departmental Transfers	1,236 12 9		„ Cash Recoveries	.....	6,448 13 5
		94,762 3 9	„ Account between Bombay and Military, Bombay—		
„ Cash Recoveries	.....	6,449 5 5	IV.—Items adjustable by Military Miscellaneous... ...	.....	19,653 6 11
„ XXIII.—Stationery and Printing—			„ Account between Bombay and Public Works Department, Bombay (Ordinary Branches)—		
Other Press Receipts—Government Central Press	.....	5 4 0	IV.—Items adjustable by Public Works Department—		
„ XIX.—Education—Miscellaneous—			Inter-departmental Charges	.....	3,482 15 1
Sale Proceeds of Books (Local)	.....	44 0 0	„ Account between Bombay and Public Works Department (Railway Branches), Southern Maratha Railway—		
„ Account between Bombay and Public Works Department (Ordinary Branches)—			IV.—Items adjustable by Public Works Department ...	.....	1,88,856 6 7
IV.—Items adjustable by Public Works Department—					
Payments into Treasuries by Civil Officers on account of Public Works Department	.....	247 10 7	Closing Balance ...	.....	6 0 8
GRAND TOTAL ...	.....	24,71,513 14 9	GRAND TOTAL ...	.....	24,71,513 14 9

No. $\frac{F}{14827}$

Forwarded to the Conservator of Forests, Southern Circle, under Section 238 of the Forest Department Code.

Bombay, Accountant General's Office,
12th August 1890.

R. LOGAN,
Accountant General.

FORM No. 60—[*Prescribed.*]

FOREST DEPARTMENT, BOMBAY, SOUTHERN CIRCLE.

Revenue received and Outstandings on account of Revenue during 1889-90.

Division.	Particulars.	Outstandings at commencement of year.	Value of Sales and other Revenue during year.	Total.	Amount realized during year.	Balance due to the Department at end of year.	REMARKS.
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
Northern Division of Kánara.	*I.—Timber and other Produce removed from the Forests by Government Agency—*						
	a. Timber	1,36,300 5 4	3,49,810 3 1	4,86,110 8 5	3,39,273 4 1	1,46,837 4 4	
	b. Firewood and charcoal	.....	2,583 5 11	2,583 5 11	2,583 5 11	.....	
	c. Bamboos	.....	0 11 0	0 11 0	0 11 0	.....	
	d. Sandalwood	.....	6 2 0	6 2 0	6 2 0	.....	
	e. Grass and other minor produce ...	.....	18,990 1 5	18,990 1 5	18,990 1 5	.....	
	II.—Timber and other Produce removed from the Forests by Consumers or Purchasers—						
	a. Timber	1,342 8 0	16,590 7 10	17,932 15 10	17,932 15 10	.....	
	b. Firewood and charcoal	4,039 15 0	15,351 15 8	19,391 14 8	19,154 2 8	237 12 0	
	c. Bamboos	.....	38,976 7 0	38,976 7 0	38,976 7 0	.....	
	d. Grazing and fodder grass ...	.....	6,491 11 8	6,491 11 8	6,491 11 8	.....	
	e. Other minor produce	158 6 0	2,089 13 1	2,248 3 1	2,176 7 1	71 12 0	
	III.—Confiscated, Drift and Waif Wood ...	.....	257 15 8	257 15 8	247 15 8	10 0 0	
	Total, Northern Division of Kánara ...	1,41,841 2 4	4,51,148 14 4	5,92,990 0 8	4,45,833 4 4	1,47,156 12 4	
Central Division of Kánara.	*I.—Timber and other Produce removed from the Forests by Government Agency—*						
	a. Timber	27,784 4 3	1,45,279 3 7	1,73,063 7 10	1,19,230 8 6	53,832 15 4	
	b. Firewood and charcoal	.....	235 8 0	235 8 0	235 8 0	.....	
	d. Sandalwood...	38 4 0	2,929 12 2	2,968 0 2	2,929 12 2	38 4 0	
	e. Grass and other minor produce ...	13 15 11	4,505 5 8	4,519 5 7	4,468 14 0	50 7 7	
	II.—Timber and other Produce removed from the Forests by Consumers or Purchasers—						
	a. Timber	1,712 9 2	13,204 10 4	14,917 3 6	14,643 11 3	273 8 3	
	b. Firewood and charcoal	... ..	9,322 9 0	9,322 9 0	9,322 9 0	.....	
	c. Bamboos	.....	14,338 8 4	14,338 8 4	14,338 8 4	.....	
	d. Grazing and fodder grass ...	.....	6,680 6 2	6,680 6 2	6,680 6 2	.....	
	e. Other minor produce	160 6 8	5,066 2 7	5,226 9 3	4,999 15 0	226 10 3	
	III.—Confiscated, Drift and Waif Wood ...	.....	165 1 1	165 1 1	165 1 1	.....	
	Total, Central Division of Kánara ...	29,709 8 0	2,01,727 2 11	2,31,436 10 11	1,77,014 13 6	54,421 13 5	

Southern Division of Kánara.	*I.—Timber and other Produce removed from the Forests by Government Agency—*						
	a. Timber	17,284 10 7	30,910 5 11	48,195 0 6	32,977 2 9	15,217 13 9	
	b. Firewood and charcoal	.....	315 0 0	315 0 0	315 0 0	.....	
	d. Sandalwood	.....	7,981 3 2	7,981 3 2	7,981 3 2	.....	
	e. Grass and other minor produce ...	.....	34,710 2 2	34,710 2 2	34,710 2 2	.....	
	II.—Timber and other Produce removed from the Forests by Consumers or Purchasers—						
	a. Timber	1,408 1 1	22,747 10 5	24,155 11 6	23,023 0 3	1,132 11 3	
	b. Firewood	49 15 3	2,135 4 1	2,185 3 4	2,185 3 4	.....	
	c. Bamboos	2 8 0	1,093 15 6	1,096 7 6	1,086 7 6	10 0 0	
	d. Grazing and fodder grass ...	.....	9,319 6 6	9,319 6 6	9,319 6 6	.....	
	e. Other minor produce	257 12 0	8,294 12 6	8,552 8 6	8,552 8 6	.....	
	III.—Confiscated, Drift and Waif Wood ...	.....	685 6 7	685 6 7	685 6 7	.....	
	Total, Southern Division of Kánara ...	19,002 14 11	1,18,193 2 10	1,37,196 1 9	1,20,835 8 9	16,360 9 0	
Belgaum.	*I.—Timber and other Produce removed from the Forests by Government Agency—*						
	a. Timber	88 12 0	20,862 6 6	20,951 2 6	17,251 14 11	3,699 3 7	
	b. Firewood and charcoal	.....	2,03,075 7 2	2,03,075 7 2	203,075 7 2	.....	
	c. Bamboos	.....	30 12 0	30 12 0	30 12 0	.....	
	d. Sandalwood	.....	25 9 6	25 9 6	25 9 6	.....	
	e. Grass and other minor produce ...	.....	57,613 2 6	57,613 2 6	57,613 2 6	.....	
	II.—Timber and other Produce removed from the Forests by Consumers or Purchasers—						
	a. Timber	.....	9,125 5 8	9,125 5 8	9,125 5 8	.....	
	b. Firewood and charcoal	.....	6,803 1 9	6,803 1 9	6,803 1 9	.....	
	c. Bamboos	.....	7,851 7 5	7,851 7 5	7,851 7 5	.....	
	d. Grazing and fodder grass ...	.....	23,693 2 5	23,693 2 5	23,693 2 5	.....	
	e. Other minor produce	.....	3,403 8 9	3,403 8 9	3,403 8 9	.....	
	III.—Confiscated, Drift and Waif Wood ...	.....	196 0 10	196 0 10	196 0 10	.....	
	Total, Belgaum ...	88 12 0	3,32,680 0 6	3.32,768 12 6	3,29,069 8 11	3,699 3 7	

Division	Particulars	Outstandings at commencement of year.	Value of sales and other receipts during year.	Total	Amount realized during year	Balance due to the Department at end of year.	REMARKS
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
Dhárwár ...	*I.—Timber and other Produce removed from the Forests by Government Agency—*						
	a. Timber	6,717 9 6	32,584 2 5	39,301 11 11	37,834 11 11	1,467 0 0	
	b. Firewood	.....	7,603 14 0	7,603 14 6	7,603 14 0	.....	
	d. Sandalwood	.....	5,838 0 7	5,838 0 7	5,838 0 7	.....	
	e. Grass and other minor produce ...	.....	52 9 0	52 9 0	52 9 0	.....	
	II.—Timber and other Produce removed from the Forests by Consumers or Purchasers—						
	a. Timber	.....	819 6 3	819 6 3	815 10 3	3 12 0	
	b. Firewood	.....	755 5 7	755 5 7	755 5 7	.....	
	c. Bamboos	.....	5,964 6 0	5,964 6 0	5,964 6 0	.....	
	d. Grazing and fodder grass ...	.....	16,133 1 6	16,133 1 6	16,133 1 6	.....	
	e. Other minor produce	.....	2,699 1 0	2,699 1 0	2,699 1 0	.....	
	III.—Confiscated, Drift and Waif Wood ...	.....	10 6 0	10 6 0	10 6 0	.....	
	Total, Dhárwár ...	6,717 9 6	72,460 4 4	79,177 13 10	77,707 1 10	1,470 12 0	
Bijápur ...	*I.—Timber and other Produce removed from the Forests by Government Agency—*						
	d. Sandalwood	.....	0 10 6	0 10 6	0 10 6	.....	
	II.—Timber and other Produce removed from the Forests by Consumers or Purchasers—						
	a. Timber	.....	1,640 4 0	1,640 4 0	1,640 4 0	.....	
	b. Firewood	.....	9,668 6 6	9,668 6 6	9,668 6 6	.....	
	c. Bamboos	.....	12 0 0	12 0 0	12 0 0	.....	
	d. Grazing and fodder grass ...	.....	6,594 12 0	6,594 12 0	6,594 12 0	.....	
	e. Other minor produce	.....	4,618 5 0	4,618 5 0	4,618 5 0	.....	
	III.—Confiscated, Drift and Waif Wood ...	.....	35 7 3	35 7 3	35 7 3	.....	
	Total, Bijápur ...	.....	22,569 13 3	22,569 13 3	22,569 13 3	.....	
	I.—Timber and other Produce removed from the Forests by Government Agency—						
	a. Timber ...		[illegible]	[illegible] 15 9	6,763 15 9	.....	
	b. Firewood			6	423 4 6	.....	
					1 10 3		

Kolába...	*II.—Timber and other Produce removed from the Forests by Consumers or Purchasers—*					
	a. Timber	.....	96,095 8 0	96,095 8 0	90,655 0 0	5,440 8 0
	b. Firewood	2,125 0 0	25,376 1 9	27,501 1 9	26,626 1 9	875 0 0
	d. Grazing and fodder grass	.....	2,120 2 6	2,120 2 6	2,120 2 6	.....
	e. Other minor produce	.....	830 2 9	830 2 9	830 2 9	.....
	III.—Confiscated, Drift and Waif Wood—	.....	598 2 10	598 2 10	598 2 10	.....
	Total, Kolába	2,125 0 0	1,32,209 0 4	1,34,334 0 4	1,28,018 8 4	6,315 8 0
Ratnágiri	*I.—Timber and other Produce removed from the Forests by Government Agency—*					
	a. Timber	.....	10,320 4 1	10,320 4 1	10,320 4 1	.....
	b. Firewood	.....	233 6 9	233 6 9	233 6 9	.....
	e. Grass and other minor produce	.....	58 1 6	58 1 6	58 1 6	.....
	II.—Timber and other Produce removed from the Forests by Consumers or Purchasers—					
	a. Timber	.....	784 13 4	784 13 4	784 13 4	.....
	b. Firewood and charcoal	.....	53 14 0	53 14 0	53 14 0	.....
	d. Grazing and grass	.....	331 12 11	331 12 11	331 12 11	.....
	e. Other minor produce	.....	10 4 9	10 4 9	10 4 9	.....
	III.—Confiscated, Drift and Waif Wood—	.....	254 12 9	254 12 9	254 12 9	.....
	Total, Ratnágiri	.....	12,047 6 1	12,047 6 1	12,047 6 1	.....
Total, Southern Circle.	*I.—Timber and other Produce removed from the Forests by Government Agency—*					
	a. Timber	1,88,175 9 8	5,96,530 9 4	7,84,706 3 0	5,63,651 14 0	2,21,054 5 0
	b. Firewood and charcoal	.....	2,14,469 14 4	2,14,469 14 4	2,14,469 14 4	.....
	c. Bamboos	.....	31 7 0	31 7 0	31 7 0	.....
	d. Sandalwood...	38 4 0	16,781 5 11	16,819 9 11	16,781 5 11	38 4 0
	e. Grass and other minor produce	13 15 11	1,15,931 0 6	1,15,945 0 5	1,15,894 8 10	50 7 7
	II.—Timber and other Produce removed from the Forests by Consumers or Purchasers—					
	a. Timber	4,463 2 3	1,61,008 1 10	1,65,471 4 1	1,58,620 12 7	6,850 7 6
	b. Firewood and charcoal	6,214 14 3	69,466 10 4	75,681 8 7	74,568 12 7	1,112 12 0
	c. Bamboos	2 8 0	68,236 12 3	68,239 4 3	68,229 4 3	10 0 0
	d. Grazing and fodder grass	.....	71,364 7 8	71,364 7 8	71,364 7 8	.....
	e. Other minor produce	576 8 8	27,012 2 5	27,588 11 1	27,290 4 10	298 6 3
	III.—Confiscated, Drift and Waif Wood	.....	2,203 5 0	2,203 5 0	2,193 5 0	10 0 0
	Grand Total	1,99,484 14 9	13,43,035 12 7	15,42,520 11 4	13,13,096 1 0	2,29,424 10 4

NOTE.—The revenue under budget heads IV and V is Rs. 213-0-6 and Rs. 12,366-2-3 respectively. This has not been shown in this statement in detail, as there are no outstandings against those heads. The total amount realized during the year is Rs. 13,25,675-12-9 (*vide* Form No. 58).

Conservator's Office, Southern Circle:
Dated Belgaum, 18th October 1890.

J. L. L. MACGREGOR,
Conservator of Forests, Southern Circle.

FORM No. 61.

Forest Department, Bombay, Southern Circle.

Outstandings and Liabilities on account of Contractors and Disbursers for 1889-90.

	Department Debtor.			Department Creditor			Balance due.		Remarks.
	At commencement of year.	Recoveries in cash and value of supplies and work done during year.	At close of year.	At commencement of year.	Payments made during year.	At close of year.	To Department (Outstandings).	By Department (Liabilities.).	
Contractors.		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
Belgaum	...	35,553 2 7	35,553 2 7	10 10 3	35,542 8 4	35,553 2 7	.....	...	
Bijápur	...	.....	.....	.....	.....	.....	.....	...	
Dhárwár	...	1,700 0 0	1,700 0 0	250 0 0	1,450 0 0	1,700 0 0	.....	...	
Northern Division of Kánara	...	28,309 13 0	28,309 13 0	372 0 0	41,617 2 0	41,989 2 0	13,679 5 0	...	
Central Division of do....	...	10,341 1 6	10,341 1 6	.....	15,058 0 0	15,058 0 0	4,716 14 6	...	
Southern Division of do....	...	.....	.....	.....	.....	.....	.....	...	
Ratnágiri	...	.....	.....	.....	.....	.....	.....	...	
Total Contractors ...	...	75,904 1 1	75,904 1 1	632 10 3	93,667 10 4	94,300 4 7	18,396 3 6	...	
Disbursers.									
Belgaum	...	51,074 10 0	51,074 10 0	1,704 5 3	50,345 10 3	52,049 15 6	975 5 6	...	
Bijapur	...	8,196 4 6	8,196 4 6	.....	8,195 12 6	8,195 12 6	.....	0 8 0	
Dhárwár	...	19,717 11 6	19,717 11 6	.....	19,729 8 0	19,729 8 0	11 12 6	...	
Northern Division of Kánara	...	87,610 6 8	87,610 6 8	.....	87,610 12 6	87,610 12 6	0 5 10	...	
Central Division of do....	...	28,280 1 2	28,280 1 2	1,228 8 7	28,131 2 8	29,359 11 3	1,079 10 1	...	
Southern Division of do....	...	39,877 10 1	39,877 10 1	2,882 3 10	40,607 6 10	43,489 10 8	3,612 0 7	...	
Kolába	...	24,783 10 11	24,783 10 11	126 3 4	24,767 6 10	24,893 10 2	109 15 3	...	
Ratnágiri	...	8,743 6 4	8,743 6 4	.....	8,759 6 4	8,759 6 4	16 0 0	...	
Total Disbursers ...	...	2,68,283 13 2	2,68,283 13 2	5,941 5 0	2,68,147 1 11	2,74,088 6 11	5,805 1 9	0 8 0	
Grand Total ...	...	3,44,187 14 3	3,44,187 14 3	6,573 15 3	3,61,814 12 3	3,68,388 11 6	24,201 5 3	0 8 0	

No. F. 14842

Forwarded to the Conservator of Forests, Southern Circle, under Section 238 of the Forest Department Code.

Bombay, Accountant General's Office:
Dated 12th August 1890.

R. LOGAN,
Accountant General.

FORM No. 62.

FOREST DEPARTMENT, BOMBAY, SOUTHERN CIRCLE.

Financial results of the year 1889-90.

Division.	Timber and other Produce removed from the Forests by Government Agency.		Other Revenue.		Formation, Protection and Improvement of Forests.	Total.		Remarks.
	Receipts.	Charges.	Receipts.	Charges.	Charges.	Receipts.	Charges.	
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
Direction	...	...	...	24,806	...	...	24,806	
Northern Division of Kánara	3,61,101	1,44,260	89,519	6,166	60,620	4,50,620	2,11,046	
Central Division of Kánara	1,27,030	62,299	50,670	7,150	12,311	1,77,700	81,760	
Southern Division of Kánara	76,265	28,534	45,149	13,954	8,192	1,21,414	50,680	
Belgaum...	2,77,997	1,34,091	53,694	10,975	11,734	3,31,691	1,56,800	
Dhárwár...	51,329	28,592	27,343	7,733	12,903	78,672	49,228	
Bijápur	1	17	22,958	3,985	12,607	22,959	16,609	
Kolába	7,189	15,600	1,23,287	10,968	21,206	1,30,476	47,774	
Ratnágiri	10,867	6,735	1,277	28	4,878	12,144	11,641	
Total ...	9,11,779	4,20,128	4,13,897	85,765	1,44,451	13,25,676	6,50,344	

J. L. L. MACGREGOR,
Conservator of Forests, Southern Circle.

Conservator's Office, Southern Circle:
Dated Belgaum, 18th October 1890.

No. 4477 of 1890.

Belgaum, 19th November 1890.

Submitted to Government in the Revenue Department.

2. The forest area is practically the same as last year, 125 acres have been added to reserved forest in Ratnágiri, and 93 deducted from protected forest in Kánara.

3. It is a subject for regret that settlement has proceeded so slowly. In Kolába and Ratnágiri only it has been completed. Elsewhere it is backward ; and at the present rate of progress, Mr. MacGregor computes it will take eight years to complete the forest settlement of Kánara. (The district contains roughly two-thirds of the forest area of the division). The proposals which were submitted with a view to hasten the settlement, which are partly endorsed by the Conservator in his 16th paragraph, have been lately negatived by Government. It is hoped that Mr. Gray, the Settlement Officer for Belgaum and Dhárwár, will have a better record of work to show at the end of the current year than he had last. The work he has to do is simple enough, and only requires personal activity, as full enquiries were made by his predecessor, and much of the work connected with the conversion of protected into reserved forest must be purely formal.

4. The information regarding the cost of settlement per square mile up to date, required by the Government of India, has not been furnished ; but the Conservator promises to supply it later on. The cost of settlement during the year was 20·24 per square mile in Kánara and 96·50 in Belgaum. The high rate in the latter district is attributed to the fact that " the office being new (it) took some time to get into working order." The undersigned has already pointed out to Mr. Gray, the Forest Settlement Officer, the necessity for increased energy and activity on his part.

5. The progress made by Messrs. Oliver and Bell in preparing working plans is not satisfactory. The question of laying a railway or tram line in the forests in the Supa Division to connect them with the Southern Marátha Railway has been fully discussed in the report of the Committee, which met at Dhárwár last August.

Paras. 22 to 26.

6. The cost of fire-protection was nearly three times as high as the rate complained of last year. The great extent of the forests in the Southern Circle and the manner in which agricultural settlements are planted in the heart of the forests, account, perhaps, for the enhanced difficulties and cost of protection from fire, as compared with the Northern Circle, where the forests are generally in separate compact blocks and topographically distinct from the cultivated area.

7 Naturally with restricted grazing privileges, the fees from grazing have increased.

8. The financial results show a decided improvement, revenue having risen from Rs. 12,73,554 to Rs. 13,25,676, the expenditure at the same time falling from Rs. 6,75,601 to Rs. 6,50,343, showing in net increase of Rs. 77,380. The increase is chiefly due to larger quantities of timber being put upon the market. As Mr. MacGregor says " the quantity exploited is well within the estimated sustained yield of the tracks treated," it may be hoped that the improvement is more than temporary. The Southern Marátha Railway has taken a very much larger quantity of fuel, and it is probable that if the Company would be sufficiently enterprising to lay tram lines to portions of the forest not yet exploited, it might secure a large additional supply at a less cost than the present.

9. The Conservator himself was active in the supervision of his charge. His remarks on the extension of garden cultivation (para. 130) cannot be dealt with here, the Commissioner not having any local knowledge to assist him, but it is a subject to which he hopes to be able to pay attention during this year's tour. Although the destruction of valuable forest may make it so costly to Government as to be viewed, as Mr. MacGregor views it, with apprehension, he appears to forget that the extension of the most productive form of cultivation is in itself a good thing. The real question seems to be whether in the interests of the cultivators themselves it will not be necessary to limit it, should it be shown that the demands on the forests are too great for them to meet—a result which must of course end in the abandonment of the gardens themselves.

ALFRED KEYSER,
Acting Commissioner, S. D.

B 911—12 SD

NORTHERN CIRCLE.

No. 3886 of 1890-91.

From

A. T. SHUTTLEWORTH, Esquire,
Conservator of Forests, Northern Circle;

To

JOHN NUGENT, Esquire,
Chief Secretary to Government,
Revenue Department,
Bombay.

Poona, 31st October 1890.

Sir,

I have the honour to submit herewith the Forest Administration Report of the Northern Circle for the year 1889-90, with its subsidiary statements.

I have the honour to be,
Sir,
Your most obedient Servant,

A. T. SHUTTLEWORTH,
Conservator of Forests, Northern Circle.

Through the Commissioners, Northern and Central Divisions.

B 911—a NC

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FOREST ADMINISTRATION REPORT

OF THE

NORTHERN CIRCLE, BOMBAY PRESIDENCY,

FOR THE OFFICIAL YEAR 1889-90.

INTRODUCTION.

Forest administration in the Northern Circle has, the Conservator believes, and he hopes he will show this by his report, maintained a healthy progressive advancement in every direction during the year 1889-90.

2. The net increase of the area of reserved and protected forests, finally constituted under the Forest Act, during the year, has amounted to 107 square miles and 329 acres, and in addition thereto 454 square miles and 610 acres have been provisionally notified under sections 4 and 28, of which 194 square miles and 117 acres are proposed Reserved Forests awaiting treatment by the Forest Settlement Officer.

3. Settlement inquiries connected with 456 square miles of reserved forests were undertaken and completed during the year.

4. 2,269 miles of forest boundaries have been defined upon the ground by 28,398 newly constructed special forest boundary marks.

5. The Privilege Code of the Khándesh forests has been revised by the local Revenue and Forest officers, with the sanction of Government, after the rules had been discussed in Committee.

6. A notable occurrence of the year has been the passing of the orders of Government in their Resolution No. 6303, dated 27th August 1889, on the report of the Forest Commission which had been appointed by His Excellency the Governor in Council, in the year 1885, to inquire into forest management, more particularly in respect of the Thána and Kolába Collectorates.

7. The Working Plans Division has made considerable headway in the Konkan, its operations having been confined practically to the Thána forests, where a systematic arrangement of conservancy and works is more immediately demanded than in the Deccan or Gujarát, and satisfactory progress has been made in marking out compartments on the ground in both the Thána Divisions.

8. The Forest Survey Party, under the superintendence and direction of Colonel Pullan, has been working in the Thána, Násik, Poona and Sátára Divisions, and has rendered a good account of itself by outturn of work: 105 square miles having been triangulated, 830·63 square miles traverse surveyed, and detailed internal surveys having covered 20·18 miles on the 16 inches scale, 84·48 square miles on the 8 inches scale, and 70·34 square miles on the 4 inches.

9. No change in the constitution and numerical strength of the superior and of the subordinate forest establishments has been made. But a very strong representative Committee of Revenue and Forest officers has, under the orders of Government, been engaged in considering and reporting upon the reorganization of the subordinate staff, both protective and office. The proposals, which have been submitted, provide for considerable increases in numerical strength, for more encouraging prospects in pay, promotions and pensions, and for a better educated class of subordinates.

10. The rainfall in the more eastern portion of the Deccan was deferred, capricious and below the average; and consequently conditions were not favourable to reproduction, natural as well as artificial.

11. Fire conservancy was more satisfactory than in the preceding year, the percentage of area burnt to the total forest area being 16·0 against 18·7 in 1888-89.

12. Protection against forest offences has been very fair: 17·5 per cent. of prosecuted offences have been unsuccessful against 24·7 per cent. of failures of the year preceding. Eighty-seven other cases have been treated under the Land Revenue

Code, and 7,926 cases have been compounded under section 67 of the Forest Act, and a total sum of Rs. 17,074-15-1 has been received in payment of compensation for damages.

13. 197,366 cattle, including 64,059 sheep and 41,626 goats, have been impounded for trespassing in closed forests.

14. 12,95,717 cattle have been provided with pasturage in open forests on payment of fees; and 803,016 cattle have enjoyed free grazing inside the open forests.

15. The revenues from fodder grass and grazing have continued to increase on the whole, although in some divisions the receipts are not so high as of the year before.

16. The financial results of the year have been still more brilliant than of the preceding year, the revenue of which had broken the record up to that date.

17. The following statement will show the names of the superior Forest officers, who have been conducting the administration of the forests during the year and the stations they have occupied, with other particulars :—

Northern Circle.

Mr. A. T. Shuttleworth, Conservator of Forests, 1st Grade, throughout the year.

No.	Forest Division.	Name of Officer.	Rank.	Designation.	From	To	Remarks.
		Mr. A. D. Wilkins ..	Deputy Conservator of Forests, 4th Grade.	Divisional Forest Officer.	1st April 1889 ..	31st October 1889.	
		,, F. Gleadow ..	Do. ..	Do. ..	1st Nov. 1889 ..	31st March 1890.	
		,, J. H. Clabby ..	Sub. *pro-tem.* Sub-Assistant Conservator of Forests, 3rd Grade.	North Sub-division Forest Officer.	1st April 1889 ..	20th May 1889.	
		,, J. Baptista ..	Acting do.	Do. ..	21st May 1889 ..	1st July 1889.	
1	North Thána ..	,, A. R. Maidment.	Sub-Assistant Conservator of Forests, 3rd Grade.	Do. ..	2nd July 1889 ..	19th do.	
		,, J. Baptista ..	Acting do.	Do. ..	20th do. ..	19th Dec. 1889.	
		,, A. C. Robinson..	Do. ..	Do. ..	20th Dec. 1889 .	31st March 1890.	
		,, A. R. Maidment.	Sub-Assistant do.	South Sub-division Forest Officer.	1st April 1889 ..	19th July 1889.	
		,, J. Baptista ..	Acting do.	Do. ..	20th July 1889 .	31st March 1890.	
		Mr. G. P. Millett ..	Assistant Conservator of Forests, 1st Grade.	Divisional Forest Officer.	1st April 1889 ..	Do.	
		,, R. H. Madan ..	Acting do. 3rd Grade.	North Sub-division Forest Officer.	Do.	9th Sept. 1889.	
		,, J. H. Clabby ..	Sub. *pro-tem.* Sub-Assistant Conservator of Forests, 3rd Grade.	Do. ..	10th Sept. 1889 ..	27th October 1889.	
2	South Thána ..	,, R. H. Madan ..	Acting Assistant do.	Do. ..	28th October 1889	21st Feb. 1890.	
		,, J. H. Clabby ..	Sub. *pro-tem.* Sub-Assistant Conservator of Forests, 3rd Grade.	Do. ..	22nd Feb. 1889 ..	31st March 1890.	
		,, G. P. Millett ..	Assistant Conservator of Forests, 1st Grade.	South Sub-division Forest Officer.	1st April 1889 ..	21st May 1889.	
		,, J. H. Clabby ..	Sub. *pro-tem.* Sub-Assistant Conservator of Forests, 3rd Grade.	Do. ..	22nd May 1889 ..	31st March 1890.	
3	East Khándesh..	Mr. F. R. Desai ..	Deputy Conservator of Forests, 1st Grade.	Divisional Forest Officer.	1st April 1889 ..	Do.	
		Mr. R. S. F. Fagan..	Do. 4th Grade.	Do. ..	Do.	24th August 1889.	
4	West Khándesh	,, F. R. Desai ..	Do. 1st Grade.	Do. ..	25th August 1889..	24th Sept. 1889.	
		,, R. S. F. Fagan..	Do. 4th Grade.	Do. ..	25th Sept. 1889 ..	31st March 1890.	
		,, G. S. Hinge ..	Sub. *pro-tem.* Sub-Assistant Conservator of Forests, 3rd Grade.	Sub-division Forest Officer.	1st April 1889 ..	Do.	
5	Násik	Mr. W. G. Betham ..	Deputy Conservator of Forests, 2nd Grade.	Divisional Forest Officer.	Do.	Do.	
		,, W. A. Wallinger.	Sub-Assistant Conservator of Forests, 3rd Grade.	Sub-division Forest Officer.	Do.	Do.	
6	Ahmednagar ..	Mr. H. Mainwaring..	Deputy do.	Divisional Forest Officer.	Do.	31st October 1889.	
		,, A. D. Wilkins .	Do. 4th Grade.	Do. ..	1st Nov. 1889 ..	31st March 1890.	
7	Poona	Mr. R. C. Wroughton	Do. 2nd Grade.	Do. ..	1st April 1889 ..	Do.	
		,, W. R. Gaunde ..	Sub-Assistant Conservator of Forests, 2nd Grade.	Sub-division Forest Officer.	Do.	Do.	
		Mr. C. Greatheed ..	Deputy Conservator of Forests, 3rd Grade.	Divisional Forest Officer.	Do.	11th Sept. 1889.	
8	Sátára	,, R. H. Madan ..	Acting Assistant do.	Do. ..	12th Sept. 1889 ..	26th October 1889.	
		,, C. Greatheed .	Deputy do.	Do. ..	27th October 1889	31st March 1890.	
		,, L. D. Joshi ..	Sub-Assistant Conservator of Forests, 1st Grade.	Sub-division Forest Officer.	1st April 1889 ..	Do.	
9	Sholápur ..	Mr. H. Mainwaring..	Deputy Conservator of Forests, 3rd Grade.	Divisional Forest Officer.	Do.	17th October 1889.	
		,, S. Hornidge ..	Assistant Conservator of Forests, 1st Grade.	Do. ..	18th October 1889	31st March 1890.	
		Mr. W. S. Hexton ..	Deputy do.	Do. ..	1st April 1889 ..	30th Jan. 1890.	
		,, G. B. Reid, C.S. .	Collector	Do. ..	31st January 1890	1st Feb. 1890.	
10	Surat	,, Darasha Dosabhai.	City Magistrate ..	Do. ..	2nd Feb. 1890 ..	23rd Feb. 1890.	
		,, R. H. Madan .	Acting Assistant Conservator of Forests, 3rd Grade.	Do. ..	24th Feb. 1890 ..	31st March 1890.	
11	Panch Maháls ..	Mr. H. W. Keys ..	Assistant Conservator of Forests, 1st Grade.	Do. ..	1st April 1889 ..	Do.	
12	Working Plans ..	Mr. T. B. Fry ..	Deputy Conservator of Forests, 3rd Grade.	Do. ..	Do.	Do.	

CHAPTER I.

AREA AND BOUNDARIES.

1.—AREA.

18. The forest area of the Northern Circle, both reserved and protected, as it stood on 1st April 1889, the additions thereto and deductions therefrom, during the year under report, and the final result on the 31st March 1890, are exhibited in the following table:—

No.	Division.	Area on 1st April 1889.				Added during the year.				Disforested during the year.				Area on 31st March 1890.			
		Reserved.		Protected.		Reserved.		Protected.		Reserved.		Protected.		Reserved.		Protected.	
		Square Miles.	Acres.	Square Miles.	Acres.	Square Miles.	Acres.	Square Miles.	Acres.	Square Miles.	Acres.	Square Miles.	Acres.	Square Miles.	Acres.	Square Miles.	Acres.
1	North Thána	300	16	295	480	72	102	34	438	..	97	..	262	372	21	330	16
2	South Thána	327	21	352	384	110	628	..	..	..	..	10	6	438	9	342	378
3	East Khándesh ..	799	480	53	161	..	..	..	..	1	568	..	..	797	552	53	161
4	West Khándesh ..	1,238	296	195	151	..	108	..	..	39	553	..	..	1,198	491	195	151
5	Násik	1,277	548	..	..	1	293	..	..	86	573	..	..	1,192	268	..	..
6	Ahmednagar	858	611	11	114	5	586	..	..	..	74	..	..	864	483	11	114
7	Poona	740	148	..	..	7	261	..	..	4	542	..	..	742	507	..	..
8	Sátára	666	1	..	28	16	69	..	619	..	57	..	16	682	13	..	631
9	Sholápur	272	446	..	..	4	156	..	..	..	..	..	..	276	602	..	..
10	Surat	69	124	..	..	..	..	..	..	1	4	..	..	68	120	..	..
11	Dángs	678	320	..	..	..	..	..	..	..	..	..	..	678	320	..	..
12	Kaira	..	39	..	..	..	..	..	..	..	..	..	..	..	39	..	..
13	Panch Mahála	183	177	139	85	..	1	..	..	..	55	..	449	183	123	138	276
14	Ahmedabad	34	118	..	..	..	..	..	..	..	316	..	..	33	442	..	..
	Total ..	7,446	145	1,047	123	218	284	35	417	135	279	11	93	7,529	150	1,071	447

19. A very large proportion, of the 218 square miles and 284 acres shown as added during the year to reserved forests, aggregating 175 square miles and 385 acres, represents rectification of areas or correction of book entries which appear in four divisions:—

	Square Miles.	Acres.
North Thána Division	66	189
South Thána do.	108	468
Násik do.	...	349
Sátara do.	...	19

In this connection the Forest Settlement Officer, Thána, writes:—

"I determined to have a correct area for this year's returns, and to arrive at so desirable a result have separately examined the area of every survey number under forest in each táluka throughout the district. I can guarantee the returns now given to be as correct as it is possible to make them."

The remaining 42 square miles and 539 acres comprise waste or forest lands, which have been finally constituted reserved forest by notification published under section 19 of the Forest Act. In the same way out of total exclusions amounting to 135 square miles and 279 acres, the rectification of book entries accounts for 126 square miles and 520 acres, which have occurred, 39 square miles 68 acres in the division of West Khándesh, 86 square miles 573 acres in the division of Násik, 495 acres in Surat and 24 acres in Panch Maháls; and only 8 square miles and 399 acres have been actually disforested by notification published under section 26.

20. As regards protected forests, 35 square miles 417 acres added, mean no increase beyond that caused by the rectification of inaccurate entries in the divisions of North Thána to the extent of 34 square miles and 438 acres, and of Sátára to 619 acres. On the other hand, the disforested area of 11 square miles 93 acres is made up of correction of book entries of 10 square miles and 6 acres in South Thána, and in addition thereto 1 square mile 87 acres excluded from protected forests in order to be assigned to cultivation or other purpose.

21. The total forest area at the close of the year stands at 8,600 square miles and 597 acres, made up of 7,529 square miles and 150 acres of reserved, and 1,071 square miles and 447 acres of protected forests, which is equal to 16·7 per cent. of the country covered by the Northern Circle, including the Collectorates of Ahmedabad, Kaira, Broach, Panch Maháls, Surat, Thána, Khándesh, Násik, Ahmednagar, Poona, Sátára and Sholápur. In addition thereto are some small

private forests in a more or less ruined condition in alienated villages with forest rights attaching to them, and also a few inconsiderable stretches of woodlands here and there in Native States of Bhor, Jawhár, Dharampor and Bánsda.

22. The work of forest demarcation, meaning the selection of lands for constitution as reserved forest, or to be called protected forest, has been very nearly completed in all the Collectorates of the Northern Circle, as will be seen from this statement :—

No.	Collectorate.	Number of Tálukas.	Number of Tálukas			Remarks.
			In which demarcation has been completed and sanctioned.	In which demarcation is incomplete.	In which no demarcation is undertaken.	
1	Thána	10	6	1	3†	†Dáhánu, Murbád and Sháhápur, but a provisional selection of areas for reservation has been made in these three tálukas by the Forest officers.
2	Khándesh ...	16	11	4	1‡	‡Sindkheda.
3	Násik	12	11	1	...	
4	Ahmednagar ...	11	11	...	...	
5	Poona	8	8	...	...	
6	Sátára	11	11	...	...	
7	Sholápur ..	7	7	...	...	
8	Surat*	8	1	4	3§	§ There are no forests in these tálukás.
9	Panch Mahals ...	3	3	...	...	
10	Ahmedabad ...	7	1	...	6‖	‖ Do. do.
	Total ...	93	70	10	13	

* Exclusive of Dángs.

23. The work of acquiring such occupied lands as are situated within the approved forest boundaries, has progressed during the year under the officers of the Revenue Department, so that in the Poona and Ahmednagar Collectorates 437 and 1,687 acres, respectively, have been obtained by giving other available waste lands in exchange; and 2,291 acres in the Collectorates of Thána, Khándesh, Ahmednagar, Sátára and Panch Mahals have been purchased by payment of Rs. 6,471 in compensation. An additional expanse of occupied lands upon the catchment area of the Tánsa lake, which is under construction in the Sháhápur Táluka of the Thána Collectorate for service in the water-supply of the city of Bombay, has been acquired during the year by the Special Officer, Mr. Vishnu Ramchandra, who is vested with the powers of Forest Settlement Officer in order to constitute as reserved forests the whole of the basin outside the wetted area of the lake; 552 acres have been secured during the year by expenditure of Rs. 7,486, the rates of compensation varying from 10 to 25 times the assessment affixed to the lands.

24. The year's statement of occupied lands acquired shows the following results :—

No.	Collectorate.	Area acquired.		Amount paid.			Remarks.
		A.	g.	Rs.	a.	p.	
1	Thána	604	1	8,730	12	2	
2	Khándesh ...	78	28	215	0	0	
3	Násik	.....		.....			
4	Ahmednagar ...	*3,785	32	4,865	12	4	* Out of this, 1,687 acres have been acquired by exchange.
5	Poona	437	12	.....			
6	Sátára	50	11	72	8	0	By Exchange.
7	Sholápur ...	.....		.....			
8	Surat	.....		.....			
9	Panch Mahals ...	11	14	72	9	0	
	Total ...	4,967	18	13,956	9	6	

Constant attention is required to be given to this work in all the districts, where a considerable number of survey numbers remain to be acquired.

25. The following statement shows the areas, which have been provisionally notified under sections 4 and 28 of the Forest Act, in the several Collectorates of the Northern Circle and were awaiting the completion of forest settlement inquiries at the close of the year :—

No.	Collectorate.	Section 4.		Section 28.		Total.	
		Square Miles.	Acres.	Square Miles.	Acres.	Square Miles.	Acres.
1	Thána	10	452	...	...	10	452
2	Khándesh	171	153	260	493	432	6
3	Násik	...	179	...	...	...	179
4	Ahmednagar	4	355	...	...	4	355
5	Poona	3	628	...	...	3	628
6	Sátára	...	35	...	...	...	35
7	Sholápur	...	...	...	...	...	...
8	Surat	...	229	...	...	...	229
9	Panch Maháls ...	3	6	...	...	3	6
	Total ...	194	117	260	493	454	610

26. Mr. W. S. Owen, Assistant Superintendent, Revenue Survey Department, who is the Special Forest Demarcation and Settlement Officer for the Thána Collectorate, reports his work for the year to have included the completion of the forest conservancy projects for the Váda and Máhim Tálukas with the preparation of maps to illustrate his proposals; of the settlement inquiries of the Váda forests with decisions recorded; of the inquiries into rights in respect of the reserved trees upon occupied lands in the Váda Táluka, also into the forest rights of the alienated villages and of isolated inám lands. The settlement inquiries affecting the Isáfat villages of Kurung and Pathraj in the Karjat Táluka, and the inquiry regarding the inám village of Mánivli in the Karjat Táluka, were disposed of. And further, having received intimation of revision survey operations being about to be commenced at once in the Bhiwndi Táluka, Mr. Owen undertook and completed the work of laying down the forest boundaries upon the maps, and preparing accurate lists of forest lands in each village.

27. Mr. Dodgson, C. S., who is the Special Forest Settlement and Demarcation Officer of the Khándesh Collectorate, demarcated a portion of the boundary of the Akráni-Toranmal reserved forest, and his work was approved and sanctioned by Government Resolution No. 1359, dated 20th February 1890; he completed the settlement of certain forest lands which had been provisionally notified under Chapter II of the Forest Act in the Navápur Petha, and revised the boundary of the North Navápur reserved forests in accordance with the orders of Government Resolution No. 7451 of the 9th November 1888; and he was engaged in inspecting the forest lands of the Pimpalner Táluka in view of submitting a forest conservancy project for this sub-division; and he likewise visited the protected forests of the Chálisgáon, Sávda and Chopda Tálukas in order to determine what portions of them, if any, should be constituted reserved forests, and what might be done with the balance remaining.

28. The revision settlement reports of the Dhulia and Taloda Tálukas were submitted during the year, and the orders of Government were passed upon them in Resolutions Nos. 9620 and 6466, dated 20th December and 2nd September 1889, respectively.

29. The demarcation and settlement work in the Násik District is almost complete, and no Special Forest Settlement Officer is in entertainment. The final notification under section 19 of the Forest Act has not yet been issued in respect of the Dindori forests, but some minor additions to reserved forests were made in the Igatpuri, Nándgaon and Kalvan Ranges during the year.

30. Mr. V. B. Vadekar, District Deputy Collector, who is the Special Forest Settlement Officer of the Ahmednagar Collectorate, in addition to his own Revenue duties, completed the settlement proceedings in respect of certain forest lands which had been provisionally notified under section 4 of the Forest Act, which were then finally constituted reserved forests; and he acquired by private negotiation, occupied lands measuring 1,687 acres, which are within the sanctioned forest boundaries.

31. The Forest Settlement Office, Poona, was in charge of Messrs. Gibb and Cappel, C. S., Assistant Collectors, from 1st to 28th October and 29th October to 31st March, respectively, in addition to their own Revenue and Magisterial duties. Forest demarcation in this district is practically complete, for the two villages Singhar and Donja, referred to in paragraph 37 of last year's report, have been examined and reported upon by Mr. Gibb in consultation with the Divisional Forest Officer, Poona, and a forest conservancy project has been submitted to Government for orders. The final settlement reports of Mával, Khed, Ambegaon and Purandhar Ranges were sanctioned by Government during the year, and the reports for the Bhimthadi and Bárámati Ranges have been submitted to Government. Settlement enquiries were undertaken in the Junnar, Haveli, Khed and Mulshi Ranges, in respect of all the lands which have been provisionally notified under section 4 of the Forest Act. Under authority of Government Resolution No. 2721, dated 10th April 1889, the private grazing and grass rights found to exist in certain forest numbers of Barowli and Bembadohol, Táluka Mával, have been commuted under section 15 of the Forest Act.

32. In the Sátára Collectorate settlement enquiries of claims over forest lands, provisionally notified under section 4 of the Forest Act, were completed by Mr. Snow, C. S., Assistant Collector, in the villages of the Válva and Pátan Tálukas, who is in Revenue charge of these sub-divisions, and by Mr. Scott, District Deputy Collector, in the villages of the Khatáv and Khánápur Tálukas, of which he is the Revenue officer. The claims in most cases were restricted to rights of way. Orders of Government have been passed upon the reports of the inquiries made into the forest rights of the holders of all the alienated villages in the Sátára District, with the exception of 25 villages in the Jávli Táluka, which still remain to be disposed of.

33. The demarcation work in the Sholápur Collectorate is also practically over, but some details remain to be completed, such as the acquisition and constitution, under Chapter II of the Forest Act, of occupied lands situated within the sanctioned forest boundaries. Under Government Resolution No. 6691, dated 9th September 1889, upon the supplementary demarcation and settlement report of the Sángola Táluka, 2,716 acres have been added to reserved forests during the year, and settlement inquiries have been made by Mr. Bhaskarrao Ramchandra Heblikar, District Deputy Collector, who is Forest Settlement Officer of the Collectorate in addition to his own Revenue duties, in respect of certain occupied lands inside the forest areas which have been acquired by payment of compensation.

34. The forest settlement of the Mándvi Táluka of the Surat District was completed during the year by Mr. Umedram Ranchordas, District Deputy Collector, who had been appointed Forest Settlement Officer for the Surat Collectorate in addition to his other duties, and Government issued orders upon the work in their Resolution No. 6445, dated 31st August 1889. Mr. Gibb, C. S., was appointed a Special Forest Settlement and Demarcation Officer for the leased Dángs by Resolution of Government, No. 181, dated 10th January 1890, and he had barely commenced the operations before the close of the year.

35. No Special Forest Settlement Officer has been working in the Panch Maháls; but the Assistant Collector has completed the forest settlement of the Godhrá and Hálol Tálukas and has submitted reports thereupon. The forests are not burdened with any private rights, but public rights of way have been found to exist through the greater portion of the forest areas, and these public rights have been recorded.

2.—FOREST SETTLEMENTS.

36. Forest settlement proceedings have been completed during the year, so that the forest and waste lands which had been provisionally notified during

the current and previous years have been finally and legally constituted reserved and protected forests, to the extent shown below, in the different divisions. This work has extended over both provisionally notified forest lands and old forests, which had been gazetted under section 34 of the Forest Act in March 1879 :—

No.	Division.	Area.		Remarks.
		Square Miles.	Acres.	
1	North Thána	287	259	
2	South Thána	120	634	
3	East Khándesh	1	568	
4	West Khándesh	40	21	
5	Násik	88	226	
6	Ahmednagar	6	20	
7	Poona	195	163	
8	Sátára	17	121	
9	Sholápur	4	156	
10	Surat	56	4	
11	Panch Mahals	43	505	
12	Ahmedabad	...	316	
	Total ...	861	433	

37. The progress made during the year in the settlement of the old forest areas, which were gazetted under section 34 of the Forest Act in the month of March 1879, will be seen from the following table :—

Class of Forests.		At the commencement of the year areas under Section 34 in which private rights have not been enquired into, settled and recorded.	Areas settled during the year.		Area of Reserved Forests alienated under Section 26.	Area of Protected Forests disforested under Government orders.	At the end of the year areas under Section 34 in which private rights have not been enquired into, settled and recorded.	Remarks.
			Chapter II of the Forest Act.	Chapter IV of the Forest Act.				
		Sq. m.	Sq. m.	Sq. m.	Sq. m.	Sq. m.	Sq. m.	
North Thána ...	Reserved ...	201	127	...	...	...	74	
	Protected...	291	53	...	...	...	238	
South Thána ...	Reserved ...	99	...	...	...	...	99	
	Protected ...	329	...	...	...	...	329	
East Khándesh ...	Reserved ...	...	...	...	...	...	...	
	Protected...	...	...	...	...	...	...	
West Khándesh ...	Reserved ...	...	...	...	...	...	...	
	Protected...	...	...	...	...	...	...	
Násik	Reserved ...	84*	...	...	...	...	...	*This figure was erroneously entered by the Divisional Forest Officer, Násik, in his last year's report and is therefore omitted this year.
	Protected...	...	...	...	...	...	...	
Ahmednagar ...	Reserved ...	...	...	...	...	...	...	
	Protected ...	...	...	...	...	...	...	
Poona	Reserved ...	192	178	...	5	...	9	
	Protected...	...	...	...	...	...	...	
Sátára	Reserved ...	...	...	...	...	...	...	
	Protected...	...	...	...	...	...	...	
Sholápur	Reserved ...	...	...	...	...	...	...	
	Protected...	...	...	...	...	...	...	
Surat	Reserved ...	733	55	...	...	...	678	
	Protected...	...	...	...	...	...	...	
Panch Mahals ...	Reserved ...	43	43	...	...	...	...	
	Protected..	...	...	...	...	...	...	
Total ...		1,972	456	...	5	...	1,427	

38. The old forest areas remaining unsettled in the Thána Collectorate at the close of 1889-90 are to be found in the Umbargaon, Dáhánu and Máhím Ranges of the North Thána Division, and in the Sháhápur and Murbád Ranges of the South Thána Division. The 180 square miles of old forest areas which have been settled during the year in this Collectorate, are in the Vádaand Máhím Ranges. In the Surat Division the remaining unsettled area of old forest is shown to be 678 square miles, which represent the forests of the leased Dángs. In the Poona Division 9 square miles about Ghera Singhad were undergoing settlement at the end of the year.

39. The forest settlement work in the Northern Circle has never been performed in any division by a special officer appointed solely and entirely for this duty only : but in some cases by special officers, who have been appointed for demarcation, meaning the selection, after village to village inspections, of waste, forest and occupied lands for forest reservation with determination of their boundaries, as well as for the settlement of such forest lands which may have been notified under sections 4, 28 and 34 of the Forest Act, or may be notified from time to time under sections 4 and 28 ; in other cases by officers of the Revenue Department, who have undertaken the forest settlement of notified forest lands within the limits of their own revenue jurisdictions in addition to their ordinary Revenue and Magisterial duties. No portion of the costs of such officers is charged in the forest accounts, and no proportional debit of their cost is made against forest settlements. Consequently it is not possible to make such separation between general costs as will give approximately the actual expenditure per square mile upon the forest settlement of particular tracts of forests.

40. In the Thána Collectorate during 1889-90 the forest settlement of 408 square miles, which includes 180 square miles of old forest gazetted under section 34 of the Forest Act, has been accomplished ; and as the total cost of the Forest Settlement Officer and of his establishment in pay, travelling allowances and contingencies for the year has amounted to Rs. 11,357, it may be contended that the cost rate per square mile of forest settlements in the Thána Collectorate during 1889-90 has amounted to Rs. 27·8. But this would not be correct as Mr. Owen, the Special Settlement Officer, has been actively employed for the greater portion of the year in selecting forest areas for reservation with determination of their boundaries, in inquiring into and determining forest rights of alienated villages, in collecting statistics for forest conservancy projects, and on other work of a similar character concurrent with the forest settlement operations. In the like manner in the Khándesh Collectorate, where Mr. Dodgson, C.S., is the Special Forest Settlement and Demarcation Officer, 42 square miles have been finally settled during the year, but no portion of this officer's salary is charged to the forest accounts, and as the cost of this officer's staff, &c., has come to Rs. 4,083, a rate per square mile of Rs. 97·2 would appear ; but Mr. Dodgson also has been employed in many other duties connected with the organization of forests.

41. 862 square miles of forests, which include the 456 square miles of old forests gazetted under section 34 of the Forest Act shown in the statement of paragraph 37, have been finally settled during the year; and as the total expenditure upon forest settlement officers and their establishments, which has been brought to book in the forest accounts, amounts to Rs. 10,452, it may be taken that the cost of forest settlements during the year has amounted to Rs. 12·1 per square mile.

3.—FOREST BOUNDARIES.

42. The work of erecting special forest boundary marks according to the standing orders on the subject, which are printed in the Forest Administration Report of the Northern Circle for the year 1886-87, paragraph 31, was in progress during the year in all the divisions of the Northern Circle, and the following statement will show the details of the work accomplished :—

No.	Division.	Length of boundaries in miles.	Number of Cairns erected.			Cost.			Remarks.
			Large.	Small.	Total.				
1	North Thána ...	36	853	...	853	599	14	0	
2	South Thána ...	119	1,353	*683	2,036	752	9	0	*Includes 601 stones.
3	East Khándesh ...	181	113	†1,385	1,498	675	13	10	†Includes 274 squared stones.
4	West Khándesh...	569	755	2,752	3,507	1,121	9	3	
5	Násik	443	1,896	5,040	6,936	2,753	14	6	
6	Ahmednagar ...	100	368	1,022	1,390	573	11	6	
7	Poona... ...	394	1,359	5,630	6,989	2,257	5	3	
8	Sátára	62	111	1,060	1,171	411	15	3	
9	Sholápur ...	208	783	708	1,491	656	9	6	
10	Surat	39	...	...	...	114	8	0	
11	Panch Maháls ...	118	123	2,404	2,527	676	4	0	
	Total ...	2,269	7,714	20,684	28,398	10,594	2	1	

4.—PRIVILEGES CONCEDED TO VILLAGERS.

43. The Code of privileges, sanctioned for the Khándesh Collectorate under Government Resolution No. 243, dated 11th January 1889, see paragraph 60 of last year's report, was subjected to revision by a Committee of local Revenue and Forest officers, the Collector being President thereof. It was decided to transfer the Nandurbár, Pimpalner and Nizámpur Ranges from the North Tápti to the South Tápti Code, as their geographical positions are south of the river. Other changes, including the addition of two valuable timber trees, the Koshimb (*Schleichera trijuga*) and the Shiwan (*Gmelina arborea*), to the twenty existing reserved trees, and alterations in the wording of certain sections of the Code, were also determined, but the orders of Government had not been passed before the close of the year.

44. No changes have been made in the privileges which had been conceded by Government in favour of local population or of forest villagers, &c., in different forests of the several other divisions of this Circle, from time to time, as these concessions finally stood on the 1st April 1889.

45. In Notification No. 885, dated 3rd February 1890, Government published rules under section 31 of the Forest Act to regulate, among other matters, the privileges which have been conceded in respect of the protected forests of the Dohad and Jhálod Maháls of the Panch Maháls District. Eighteen kinds of trees having been reserved in these forests by notification under section 29 of the Forest Act; every cultivator in a village, which has contributed land to protected forests, may cut unreserved trees in any portion of the protected forests upon a licence to be granted by the local Revenue officers subject to certain conditions stated in the rules. Cattle may be grazed, of resident cultivators, free; and of professional graziers and others on payment of fixed fees upon permits to be granted by local Revenue officers without limitation of the numbers of cattle, with no restriction as to area and of grazing season. Resident cultivators may enjoy, free of charge, privileges—

(*a*) of cutting and taking grass, and branches of the Salida tree for marriage ceremonies;

(*b*) of collecting and taking fruits, gums, dead leaves and other forest produce except timber;

(*c*) of removing head-loads of dead wood of all sorts, including teak;

(*d*) of removing stone, kankar and earth for domestic use and agricultural purposes and not for sale;

subject to the condition that the persons allowed to exercise them do not set fire to any grass or other forest produce in the forests, and do not stack grass or other forest produce in the forest.

46. The local Revenue officers may grant written permission to any resident cultivator to cut and remove free of charge thorns for fencing in such portion of the protected forest as may be determined in consultation with the Forest authorities, and in case of any difference of opinion as to the location of such cuttings in the forest, the question is to be referred to the Collector, whose decision shall be final.

47. The privilege of collecting and removing head-loads of dead wood of the unreserved kinds for their own use and not for purposes of sale, and of collecting minor forest produce, such as honey, gum, lac, wild fruits, &c., excepting hirda and mowra, which have been strictly reserved to Government, has been conceded to the wild tribes in the forest reserves of the Mándvi Range of the Surat Division under Government Resolution No. 6445, dated 31st August 1889, Revenue Department.

48. The expenditure incurred during the year and charged in the forest accounts of the Circle upon the creation and constitution of reserved and protected forests is as under:—

		Rs.	a.	p.
(1).	Salaries and travelling allowances of Forest Settlement Officers not charged against the Forest Department ...	19,342	0	4
(2).	Salaries and travelling allowances of establishment employed under Forest Settlement Officers and charged in the forest accounts, and the contingent expenditure of the latter ...	10,451	8	4
(3).	Demarcation of forest boundaries upon the ground by the construction of special forest boundary marks ...	10,594	2	1
(4).	Compensation for land and rights	13,956	9	6
	Total ...	54,344	4	3

49. The work actually effected during the year, which is represented by the expenditure detailed above, comprises:—

(*a*) the final settlement of 862 square miles at a cost of Rs. 12·1 per square mile;

(*b*) the demarcation of 2,269 miles of forest boundary at Rs. 4·6 per mile; and

(*c*) the purchase of 2,843 acres of land for forests at Rs. 4·9 per acre.

CHAPTER II.

SURVEYS AND WORKING PLANS.

A.—SURVEYS.

50. A portion of the Topographical Survey Party of the Government of India which has been deputed to this Presidency for forest surveys under the superintendence of Colonel Pullan, B. S. C., working under the joint direction and supervision of the Survey and Settlement Commissioner, Bombay, and the Surveyor General of India, has been employed throughout the year in the Northern Circle in the Collectorates of Thána, Násik, Poona and Sátára; and the nature and extent of the work performed by the surveyors will be seen in the following detailed statement:—

No.	District.	Táluka.	Triangulation.	Traverse.	Topographical or Detail Survey.		
					16″	8″	4″
1	North Thána ...	Sálsette	...	34·80	...	...	...
		Bassein	...	298·23	...	...	...
2	South Thána ...	Karjat	43	127·1	...	38·58	...
		Kalyán	50	55·86	...	10·14	...
		Bhiwndi... ...	...	133·54	...	...	...
3	Násik	Málegaon ...	...	...	...	...	...
4	Poona	Sirúr	...	...	3·15	...	...
		Bhimthadí ...	...	...	16·33	...	...
		Khed	12	181·1	0·70	35·76	51·34
		Mával	...	...	...	...	19·00
5	Sátára	Wái	...	...	...	...	...
		Total ...	105	830·63	20·18	84·48	70·34

51. During the months of April and May 1889, the Forest Survey Party in the Northern Circle was working in Karjat Táluka of the Thána Collectorate,

where 38·53 square miles of 8″ survey were completed, and in the Mával Táluka of the Poona District also in which 19 square miles of 4″ survey were accomplished. Tertiary triangulation and traversing, in order to prepare the ground for topographical survey, was likewise carried on during the two months. Early in June field-work was closed, and the establishment returned to Poona, its headquarters station, for the rainy season, when the computation of and setting up traverses surveyed during the field season, the examination and fair-copying of traverses, and the projection of plane table for the next field season were undertaken; 19 original sections of the forests of the Wái Táluka containing an area of 88 square miles on the 4″ scale were mounted, typed and prepared for the use of the Forest Department; and 29 sections comprising forests of portions of Nándgaon and Yeola Tálukás of the Násik Collectorate, and of the Karjat and Kalyán Tálukás of the Thána District were typed and fair-drawn, and were supplied to the Forest Department. From November 1889 to the end of March 1890 one survey party was engaged in the topographical survey of the forests of the Khed Táluka of the Poona District, where the valuable teak forests have been surveyed internally upon the 8″ scale, while the remaining portions of the forests have been done upon the 4″ scale; and two sub-surveyors were deputed to survey, upon the 16″ scale, the bábul forests upon the banks of rivers in the Bhimthadi Táluka of the Poona District.

52. The following gives a comparison between the relative costs per square mile of the forest surveys on the different scales, during the year of this report and the preceding year, according to information supplied by the Superintendent of forest surveys :—

	Cost per Square Mile.			Remarks.
	16″	8″	4″	
1888-89	..	145	65	
1889-90	71	188	133	
	...	43	68	Increased cost during 1889-90.

The Superintendent attributes increased cost per square mile to the inclusion in the accounts of the year under report of charges on account of fair-drawing in arrears from the preceding year. On the other hand, it must be mentioned that no portion of the advance triangulation and traversing has yet been made use of.

53. It is a matter of great difficulty to apportion to each scale of survey, or each branch of the work, such share of the total expenditure of the forest surveys as will show with any reliability its actual cost, as the charge on account of superintendence is such a very heavy item. But experience, the result of careful observation by forest surveying officers, has shown that the cost of detailed surveying upon the 8″ scale may be taken to be not so much as Rs. 10 per square mile greater than of detailed surveying upon the 4″ scale; on the other hand, the difference of cost between the 4″ and the 2″ scales is very considerable. The reason for this being that nearly, if not quite, as much detailed survey work is required to be undertaken for the 4″ as for the 8″ scales, while on the small scale of 2″ there is no room to show anything beyond the main features of the country comprised within the map.

54. Government in their Resolution No. 11 of the 3rd January 1889, in the Revenue Department, sanctioned the 8″ scale for the survey of the valuable teak reserves in the Poona and other districts, the forests of the Thána Collectorate and other forests of real value where large scale maps are required for the purposes of working plans, while the 4″ scale has to be the standard scale for forest surveys. The valuable teak forests of the Thána and of the Deccan Collectorates are not to be found, as a rule, in large solid blocks, but they are represented mainly by long narrow strips on the hill slopes of parallel valleys, and the timber produced is not of large scantling. The interests of local supply, and other local conditions, require the working circles (French series) to be made small, so that simultaneous exploitations may be spread over the whole region, not only to serve the local and export trade to the highest extent possible, but also to

provide labour for forest villagers, as well as pasturage for village cattle within a reasonable distance of their homes. Although a square inch of 4″ map may represent 40 acres, still it must be remembered that coupes are not of uniform shape, in some places the hill side is wide, in others it narrows down to 200 or even 100 yards, and in such case on the 4″ scale the forest would almost illustrate Euclid's definition of a line. Some coupes have necessarily to be not larger than 20 acres. In the Thána Collectorate, where the forests are for the most part uniformly wooded, a mistake of 5 or 6 acres in the area of a compartment may mean Rs. 200 or Rs. 300 in the selling value. However accurate the survey may be on the 4″ scale, it is indisputable that the topographical features cannot be shown in anything like the detail they appear upon a map four times this size, *viz.*, on the 8″ scale, and for laying out coupes on the ground, and for the protection of their boundaries, and for testing and examining the position and areas of the compartments, in fact for all purposes of conservancy and works, it is clearly necessary to have a correct map, on a sufficiently large scale, to enable a supervising officer to locate a given point without having recourse to instruments: experience has shown that boundaries of compartments may, through carelessness or fraud, be marked off on the ground not in accordance with the lines indicated upon the map, and that boundary lines are sometimes fraudulently altered, such errors and deviations are more liable to occur, and are much more likely to escape detection, with a small map of the 4″ scale than with the larger map of 8″: and in the Thána Collectorate alone a loss of revenue of thousands of rupees may result. It may be claimed of the 8″ scale that it acts as security against errors, carelessness and fraud in the special circumstances of the forests of Western India to such an extent as more than compensate for the larger cost of the larger scale map. Another valuable recommendation in favour of the 8″ scale for the forests is that it is the standard scale of the Bombay Revenue Survey, and as a forest block is made up of the forest lands of different villages, it goes without saying, that the importance of having one and the same scale for the maps of the villages which have contributed to the forest block and of the latter itself must be great for administrative purposes,

55. The river side bábul reserves in the Deccan are long narrow strips covering the banks of the rivers; they are seldom over 100 yards wide, and are often barely 10 yards, and much of their area is below flood level, and they are annually swept three or four times by the river when it comes rolling down in heavy flood from the Western Ghâts, 50 to 100 miles off: to make fellings over large areas under these conditions would be madness, for the result would be erosion to an exaggerated degree. Grazing and grass cutting for local supply and for trade are important factors in the treatment of these forest lands, which have to be taken into account, for village cattle must be provided with pasturage, and the revenue obtained therefrom amounts often to from Rs. 3 to 4 per acre, per annum, while it averages Rs. 2. In view of the determining factors the system of working adopted is clean felling and subsequent plantation *in very small annual coupes, never exceeding five acres.* Thus the exposure to erosion is limited, and the power of the river is broken, while the largest possible area legitimately available is provided for the production of fodder and grazing: the smallness of the compartments and of the working circle, for the forests are in patches, demand maps upon an exceptionally large scale, while the detailed survey of these properties is so easy, there being no physical difficulties, that the relative cost between a large and a small scale is inappreciable; consequent to all these reasons Government have, in their Resolution No. 2754 of the 12th April 1889, sanctioned that the maps of the bábul reserves in the Deccan shall be produced upon the scale of 16″ equal to one mile.

56. A Sub-Division Forest Officer, who has been engaged continuously in the Thána District from the time the new system of working was introduced, in marking out coupes upon the ground and in preparing them for exploitation and in supervising the operations of the contractors or purchasers, reports his opinion upon the different values of the forest maps of the two scales, from actual experience in the use of them in carrying out his work, in the following words;—

"I am fully in accord with your opinion that maps on the 4″ scale are quite inadequate for the purpose of elaborating working plans of forests containing teak and other valuable timber, which have in view of local circumstances to be exploited by the location of coupes over a great many small areas, and where the *area* forms the basis of valuation of the

standing stock, which is sold on the system of contract cuttings. I have had much experience in Thána in the use of 4″ topographical sheets for field-work in laying out upon the ground coupes as delineated on such sheets, from which I am able to aver that for purposes of accuracy this sort of work is a mere make-shift. To find out upon the ground such a thing as a minor nulla which may be shown on this map is many a times a fruitless task; distances taken off by scale, when measured upon the ground, often give incorrect results, and the reason of this is obvious, for so small an error as a tenth of an inch in lineal measurement upon the map, means a difference upon the ground of as much as 132′, that is, a difference in area of 4 acres, one way or the other. Apart from this defect it can also be shown that the working with the 4″ maps is in the end not so cheap as the ratio of actual costs on survey operations for the 4″ and the 8″ scales would lead us to believe; at present coupes demarcated upon the ground from the 4″ maps have to be actually re-surveyed by the chain and cross staff by specially paid surveyors of the Working Plans Branch. Taking a surveyor's pay at Rs. 30 per mensem, and the expenditure on labourers he has to employ to help him at an equal sum, and the outturn of work for that period at half square mile (about 6 coupes of 50 acres each), there has to be incurred a cost of Rs. 120 per square mile, when, therefore, this item is taken into consideration, the costs on surveys on the 4″ and the 8″ scales would compare per square mile as Rs. 185*, Rs. 187 instead of as Rs. 65, Rs. 187 respectively.

* 65 + 120.

The resurvey of the coupes mentioned will no longer be required when the 8″ maps are available, the setting out of the coupes with their help can be carried out very expeditiously and the coupe areas as taken out by scale from the maps can for all practical purposes be accepted with perfect reliability. With some teaching and practice Range Forest Officers, and intelligent members of the protective staff will be able to lay out coupes upon the ground as marked on maps of this large scale, and this will obviate the necessity of having a special staff of surveyors. Another great advantage would be that supervising officers will have great facility in checking the boundaries of coupes with the 8″ maps in hand."

(*B*).—WORKING PLANS.

57. The operations of the Working Plans Branch were practically confined to the two forest divisions of Thána during the year under the direction of Mr. T. B. Fry, Deputy Conservator of Forests, and the work was conducted on the lines already described in previous reports. The following is the progress statement.—

No.	Range.	Total Area.	Number of Blocks per Range.	Number of Sub-blocks laid out.	Number of Compartments laid out in 1889-90.	Average Area of a normal Compartment.	Remarks.
	North Thána Division.	Acres.					
1	Máhím	81,000	41	...	42	49	
2	Bassein	52,255	23	2	39	56	
3	Sálsette	14,641	11	...	10	36	
4	Váda	80,320	28	...	12	71	
5	Dáhánu	70,884	42	...	62	42	
6	Umbargaon ...	35,889	12	...	19	74	
	Total ...	334,989	157	2	184	328	
	South Thána Division.						
1	Kalyán	32,497	17	...	15	47	
2	Murbád	66,642	20	...	15	83	
3	Karjat	51,954	20	...	36	64	
4	Khálápur						
5	Bhiwndi	39,803	20	20	28	49	
6	Mokháda	47,540	16	...	22	74	
7	Khardi	157,812	53	...	49	74	
8	Sháhápur						
	Total ...	396,248	146	20	165	391	
	Grand Total ...	731,237	303	22	349	719	

58. In 22 forest blocks out of the 303, the first ten compartments have been marked off on the ground and demarcated with special cairns; these are shown as sub-blocks in the statement. During the year single coupes for next year's working were also demarcated in the remaining 281 blocks. A good deal of map-work in the shape of mounting and colouring to show forest reservations and the differentiation into blocks was executed during the rainy season. Mr. Fry delivered as usual a series of lectures in the College of Science, Poona, for the Forest Class students.

59. In paragraph 12 of their Resolution No. 3012, dated 2nd May 1890, on the Forest Administration Reports of the Bombay Presidency for 1888-89, Government have expressed their opinion that the Conservator should be in a position to present in future reports valuable information as to the capabilities of the Thána forests, and whether they have hitherto been under or overworked. No Forest officer who has seen the forests of the Thána Collectorate can but come to one conclusion regarding them, *viz.*, that the larger portion of them has been consistently overworked for many years before the introduction of regular working, *under the exercise of admitted privileges* of ráb and dead-wood, by the population of the country, carried on contemporaneously with exploitation for timber, &c., and with no care whatever for reproduction. The privileges have been restricted only by the physical power or convenience of the concessionaries to cut and take. Fires have prevailed and swept the forests from end to end, a considerable portion of the forests may have not been burnt in any one year, but a very insignificant portion of them has escaped from burning over a series of years. Young saplings have been ruthlessly cut over in all directions, year after year, by villagers to supply ráb material and firewood during the rains, to forest villagers, as well as outside villagers, and to be sold at bandars and railway stations as firewood to feed the export trade. Dead-wood has been manufactured wholesale for sale to dealers, who set up timber depôts at bandars and railway stations, and invited forest villagers and others to bring dead-wood to them, which they bought and exported, such dead-wood being mostly manufactured from young and maturing timber. Cattle have been allowed to graze everywhere. The trees which have been felled departmentally have not reproduced good shoots, because no sooner did the latter appear than they came within the scope of privileges and were in many cases beheaded or barked or cut down. The natural germination of seeds has produced seedlings only to be eaten by cattle or trodden under foot, for there has been no closure of sufficiently long duration. Thus the forests of the Thána District, except in out-of-the-way parts of the district, such as the Mokháda Petha, the inland villages of the Dáhánu Táluka, and in some of the small patches of the old Imperial Reserves, have been steadily deteriorating and gradually disappearing, although the outturn of timber removed on behalf of Government has been much less than it might have been, or ought to be, in proportion to the forest area, and has been a long way short of the capabilities of the forest region of the Thána Collectorate.

60. Before the introduction of the present working plans system nearly all exploitation was irregular, and no record was kept, or could be kept, of the yield, for the privilege-holders in their exploitations were not confined to any defined area determined by the capabilities of the forests, nor to any stated seasons. They went into the forests when they liked, they went where they liked, and they cut and took what they liked, so long as they openly confined themselves to the kind of trees allowed to privilege-holders, and did not act contrary to the law; and they also cut and took illicitly what they were not entitled to cut and take as often as they might think the risk of detection and of conviction and punishment was either remote or not sufficiently deterrent.

61. Until considerable progress had been made in the settlement and constitution of the forests of the Thána Collectorate under the Forest law, and until both executive and protective establishments had been increased, and also until a special working plans division had been formed, it was not possible to bring these forests under any systematic working which would provide for the exploitation of timber and other forest produce up to a volume closely approximating to, if not quite reaching, their full capabilities, and would at the same time provide remedies for the overworking and depletion going on actively in many directions.

62. The working plans of the forests of the Thána Collectorate have been arranged upon principles which will give effect to the will of the owner, or in other words will provide, as far as it is possible so to do, for the exercise by the concessionaries of those privileges which Government have ordered the people of forest villages and of other villages in the Thána District are to be allowed to enjoy. The problem set to the Forest officers to solve was to arrange the working plans of the forests upon the bases:

(*a*) that local supply must be served by allowing to forest villagers and others as much ráb material, in the shape of tree-loppings, leaves, &c., as can be supplied; by providing grazing for village cattle; by providing labour and occupation in forests: and all these were to be given within a reasonable distance of in no case extending 4 miles beyond a forest-villager's home;

(*b*) that local trade must be encouraged and developed;

(*c*) that the revenue legitimately obtainable from the forests should be realised;

(*d*) that forests must be maintained: their capabilities being preserved and enhanced.

63. A forest, it should be remembered, can only give a sustained yield of certain timbers or other articles of produce in certain relative proportions. If the forest is overworked in one kind the proceeding will reflect upon another, and eventually react upon the produce overworked; for example, if the forests are overworked for ráb material the outturn of timber and firewood will decrease, and the yield of ráb material will in time decrease also; so that there will be a smash up, or an exhaustion all round, in time.

64. In order then to comply with the conditions imposed by Government it was necessary:

i. to have the forest-blocks or working circles, French series, of restricted areas, so that the 4 miles maximum distance should be observed;

ii. to have a large number of forest blocks. There are 1,331 forest villages in the Thána Collectorate, their cultivation areas occupying the plains, while their forest areas, about 1,250 square miles in aggregate, covering the hill ranges which are on the sides of the valleys and form the water-sheds, or divides of the drainage;

iii. to have a large number of coupes in order that simultaneous exploitations should be spread over the whole forest region of the Thána District;

iv. to determine a revolution which would give for the market the kind of timber in general demand, *viz.*, small timber, firewood and charcoal; which would allow selected trees to mature; which would provide as much branches with leaves attaching to them for ráb as can be supplied; which would provide a sufficiency of grazing for village cattle; and which would at the same time keep the hill sides so well protected by tree-growth as to ensure the impounding of a torrential rainfall and the prevention of its off-flow in turbulent rush on to the rice fields in the cultivation areas below, with the removal of soil and other detritus, to impoverish the land and work other disastrous consequences.

65. Careful examination of the timber growth in the forests of the Thána Collectorate, undertaken by Mr. T. B. Fry, Divisional Forest Officer, Working Plans, and of the timber brought to private yards and departmental depôts, having shown that a rotation of forty years was the best calculated to serve *all* the interests concerned, a revolution of forty years has consequently been fixed, and the exploitable portions of the working circles, or forest-blocks, are sub-divided into forty compartments, each of which may become a coupe of the year in turn; a few seed-bearers and other maturing seedling trees of valuable species are reserved, and the remainder of the trees are sold on foot, to be felled and removed between the close of the rainy season and the end of the following April. If the coupes were to be expanded and reduced in number, they could not be worked

in one season, owing to their greater size, and to the difficulty of transporting labour, or of inducing labour to come from a long distance, the consequence would be that the forest villagers, who would not leave their homes, would prey upon the neighbouring forests for subsistence, and thus the timber prospects of future years would suffer, and forest crime and repression would be on the increase, and there would be complaints and grievances loud and long of unsatisfied local requirements ; and if the timber operations of a coupe were to be extended over two or more seasons, it would be at the expense of reproduction, both by seed and shoot, in addition to the evils aforementioned. As a rule three-fourths of the compartments of a working circle are to be opened to the grazing of cattle, and ten compartments are to be closed against man and beast at one time, but in particular cases where a longer closure may be found to be required, a larger proportion of a working circle may at one time be protected against grazing or exercise of privileges.

66. It may be contended that under a shorter rotation more râb material could be provided, but any reduction in the length of the revolution will necessarily cause the expansion of the coupes, unless the number of working circles is very largely increased, which would add very considerably to the cost of supervision; and although it might augment the supply of ráb materials for a time, still it will very sensibly diminish the yield of timber and firewood, which are equally important if not more important considerations, and it will reduce the revenue derived from the forests to a very low figure, and ultimately it will reduce the supply of ráb material itself. Indeed for the service of agriculture a continuously sufficient supply of firewood is possibly of more real importance than of ráb material, for if the former were to fall short a substitute will be found as has been resorted to elsewhere, in cow dung, which is at present the mainstay for manure of rice fields in the Thána Collectorate.

67. Since the introduction of the present system of working the Thána forests, the forest revenues have steadily risen, and may be reasonably expected to rise to a much higher figure than they have yet reached, for coupes sell well, private enterprize competing to provide for local supply, and the Thána forests are a mine of wealth, the capital value of which will continue to augment. At the same time the wholesale looting of the forests which used to prevail is dying out on all sides, because that portion of the population which lived on the forests in felling, carrying and selling timber illicitly, now finds legitimate occupation on wages in the coupes all the working season round; and it has been reported to Government by their highest officers that there are practically no complaints on the part of the people of inability to obtain the satisfaction of their reasonable demands upon the forests. However even under this system the forests of Thána are in danger of being overworked by promiscuous fellings allowed outside coupes to the extent:

(a) of the trees lopped and beheaded for ráb, or ringed or cut over for dead wood removal, in exercise of conceded privileges, supplemented by the amount of mischief done by intentional firing of the forests in order to ensure a comfortable and convenient enjoyment of such admitted privileges, in all and any portion of the forests included within the working circles, but outside the coupes which represent one-fortieth of whole area of the forest region;

(b) of the damages done by fire and cattle to reproduction, more particularly in the "closed-forests," which consist of compartments which have served within the past ten years as coupes. The unlicensed and unlimited privilege of shikár is a fruitful source of such fires.

68. The condition of the Thána forests at the end of the revolution will depend entirely upon how the closed forests are treated now; while the forest revenues and the satisfaction of local wants between the present time and the end of the current revolution will depend greatly upon the interim treatment of the compartments which have not yet become coupes. The policy in past years had been to decrease the ráb-producing sources and concurrently to increase the ráb-consuming area, but under the present working plans the limits of the forest areas have been fixed once for all, and the yield of ráb material, which is after all the most active agent of forest depletion, has been defined within these limits. If the closed compartments are not effectively protected against man and beast,

and if promiscuous exploitation of timber is allowed to continue from forest areas beyond, or outside of, the annual coupes within the forest blocks, and if the shikári is allowed to roam in unregulated freedom wherever he may list, firing the forests all round him, then the maintenance of the Thána forests and the enhancement of their productive powers will continue beyond human attainment.

The Forest Department having provided the remedy for the overworking of the forests in past years by privilege-holders, it remains now for the Revenue officers to induce the rayats to take and utilise all the ráb material that is available from the coupes and to restrain them from lopping, beheading and felling any trees for ráb in any portion of the forests of a working circle outside the limits of the coupes.

69. Taking the average coupe at 50 acres a revolution of forty years gives 2,000 acres as the minimum size of the working circle, and thus the 1,250 square miles of the forests in the Thána Collectorate might be divisible into 400 working circles with 400 coupes spread over them as centres of labour and of local supply annually. But as a matter of fact the normal area of the working circle may be put at somewhat exceeding 2,000 acres, owing to the parts of the forests which are not worked but are preserved for climatic and other reasons, and also to the forest blocks in parts of the Dáhánu, Váda, Máhím and Mokháda Ranges in the wilder portion of the Thána District being comparatively large. The circumstances of the Thána Collectorate, however, are exceptional. In some other forest tracts the working circles have, through the force of local conditions which affect them, for example the riparian bábul forests on the Deccan, to be of even much smaller size than the working circles of the Thána Collectorate, but in the general run of the forests of the Northern Circle it would be neither convenient nor desirable to form such small units of working as of 1,000 or 2,000 acres. Take for example the Sátpuda forests, which cover many hundred square miles, the leased forests of the Dángs, the moist forests bordering the Syhádri range of Western Ghâts, and the forests in other parts of the country where forest villages are very distant one from the other, and the population dependent upon the forests is sparse. On the other hand, where the forests and cultivation areas intermingle, so that the former consist mainly of patches and long streaks on hill sides and water-sheds, where the density of population is very great, in places amounting to even 800 to the square mile, and the demands upon the forests for pasturage and other wants are continuous and considerable, a detailed system of management is imperative, if the forests are to be maintained, and are to occupy their proper position in the harmony of the general administration of the country. Where local circumstances point to the frequency of forest-fires, and the difficulty of forest protection, in such places small and many coupes are of advantage upon the principle of not carrying all one's eggs in one basket.

70. Taking the entire reserved forest area of the Northern Circle at 4,765,585 acres, at which it stood when the year of this report opened, and adopting even so small a forest block as 2,000 acres to be the normal size of the working circle, there would be altogether 2,382 in the Northern Circle. The number may at first sight appear to be large, but when it is considered what very important interests are concerned in the preservation of the forests, and what heavy demands are made upon the forests for supplies for a teeming population, it may be urged, not unreasonably, that 2,382 centres of forest labour and local supply, and timber trade, distributed over 7,500 square miles of reserved forests, which are scattered over a territorial area of 51,501 square miles of country, are none too many. When other considerations than of revenue exercise the more potential influence upon the selection of a plan of forest management, as for example the claims of the people, and of forest villagers more particularly, upon the forests for the supply of their requirements in forest produce, in forest grazing, &c., a system of detailed management cannot well be condemned upon the grounds that it may not in this country be productive at present of so considerable a revenue, per acre, as is obtainable under the same system in Europe or elsewhere. It must be remembered that a broader system of management will not provide, if at all, certainly not to the same extent, all that is required to be provided, and therefore, will not satisfy the will of the proprietor, and will not be so conducive to the maintenance and improvement of the capital. Further

it may be urged that, the forest revenues are expanding by leaps and bounds, and that they will continue to increase, and that whereas in the forests of the Northern Circle a very large proportion of the area consists of forest lands under reboisement, a revenue from fodder grass and grazing being the chief income derivable from it, the distribution of the total forest revenues of the circle over the total forest area, in order to arrive at an average rate of revenue per acre, gives no indication whatever of the revenue which the timber-covered and timber-exploitable forests of the circle are capable of yielding, and are now returning.

71. The expenditure which has been incurred during the year upon surveys and working plans amounts to Rs. 58,040-15-4, which sum is made up of :—

Rs. 35,181-7-11 cost of the forest surveys.

Rs. 17,159-14-0 cost of Working Plans Division.

Rs. 5,699-9 5 cost of surveyors attached to the Divisional Forest Officers for preparing maps, laying out compartments in the forests, defining forest boundaries on the ground, &c.

CHAPTER III.

PROTECTION AND IMPROVEMENT.

1.—ESTABLISHMENTS.

72. The Controlling Staff of the Forest Department, Northern Circle, which consists of 1 Conservator of Forests, and 13 Deputy and Assistant Conservators of Forests, remained unchanged during the year.

73. Mr. Gleadow, Deputy Conservator of Forests, 4th grade, who had proceeded on furlough to Europe for 18 months from the 15th April 1888, returned to India, and was posted to North Thána as Divisional Forest Officer from 1st November 1889.

74. Mr. Hornidge, whose services had been placed at the disposal of the Government of India for employment in the Central Provinces, was retransferred to the Bombay Forest Department, and posted to the Sholápur Division, of which he assumed charge on the 18th October 1889.

75. Mr. Mainwaring, Deputy Conservator of Forests, 3rd grade, and Divisional Forest Officer, Ahmednagar, proceeded on furlough to Europe for one year from 5th November 1889, and Mr. Hexton, Deputy Conservator of Forests, 1st grade, and Divisional Forest Officer, Surat, availed himself of privilege leave for 2 months and 18 days from 31st January 1890.

76. The following officers also enjoyed privilege leave during the year for periods stated against them :—

Mr. R. S. F. Fagan, Deputy Conservator of Forests, 4th grade, and Divisional Forest Officer, West Khándesh, from 25th August to 24th September 1889.

Mr. C. Greatheed, Deputy Conservator of Forests, 3rd grade, and Divisional Forest Officer, Sátára, from 12th September to 26th October 1889.

77. The numerical strength and constitution of Sub-Assistant Conservators attached to the Northern Circle, underwent no change during the year. Mr. Ganesh Krishna Shaháne, who was under suspension at the close of last year, was dismissed the service under orders contained in Government Resolution No. 5320, dated 25th July 1889, for gross neglect of duty, carelessness and insubordination, for absenting himself from his charge without leave, and for several other grave charges of misconduct.

78. The sanctioned strength of permanent protective establishment, the monthly cost of which amounts to Rs. 21,503, in the several divisions of the Northern Circle, is exhibited in the following table :—

Number.	Division.	Number of Ranges.	Range Forest Officers. Rangers. Rs. 100.	Rs. 80.	Rs. 60.	Rs. 50.	Foresters. Rs. 40.	Rs. 30.	Rs. 20.	Forest Guards. Rs. 15.	Rs. 12.	Rs. 10.	Rs. 9.	Rs. 8.	Rs. 7.	Remarks.
1	North Thána	6								6	14	25	25	70	80	The pay of the Rangers and Foresters is personal and the men are transferred from one range to another, as the exigencies of the service may require. Therefore the number of appointments in each grade is shown in lump for the whole Circle.
2	South Thána	8								8	14	25	23	70	115	
3	East Khándesh ..	13								8	16	20	20	40	75	
4	West Khandesh ..	10								7	14	18	18	50	102	
5	Násik	14								10	20	25	26	50	158	
6	Ahmednagar	11	3	4	6	12	20	30	30	6	12	22	22	50	85	
7	Poona	11								9	17	26	25	60	120	
8	Sátára	14								9	18	24	22	57	102	
9	Sholápur	7								3	6	11	8	16	68	
10	Surat	6								2	4	4	6	18	27	
11	Panch Mahális ..	5								2	5	10	10	30	48	
	Total ..	105	3	4	6	12	20	30	30	70	140	210	205	511	980	

79. In the Násik and Poona Divisions a temporary establishment of 6 and 45 Forest Guards, respectively, was employed in addition to the above.

80. Government in their Resolution No. 4832, dated 6th July 1889, in the Revenue Department, disposed of the proposals, which, in obedience to the orders of Government, had been submitted by the Conservators of Forests, for a reorganization of the subordinate Forest staff, of which mention appears in paragraph 86 of last year's report, by directing a committee to be composed of the 3 Commissioners of Divisions, the 2 Conservators of Forests, Northern and Southern Circles, Dr. T. Cooke, Principal of the College of Science, Poona, and Mr. G. W. Vidal, C. S., late President of the Forest Commission, to assemble at Poona during the rains, in order to draw up a comprehensive scheme for the thorough reorganization of the subordinate forest establishments. This committee accordingly met during the rains of the year under report, and after careful and lengthy discussion and consideration submitted a project, upon which no orders had been issued before the close of the year.

81. The sanctioned complement of the office establishment, in which no change has been made during the year, is exhibited, with its monthly cost, in the statement given below :—

No.	Division.	Number and Gradation. Clerks. Rs. 100	Rs. 80	Rs. 60	Rs. 50	Rs. 40	Rs. 30	Rs. 20	Rs. 15	Peons. Rs. 10	Rs. 9	Rs. 8	Monthly Cost.
													Rs.
1	Direction	1	1	1	2	2	2	2	...	1	1	5	579
2	North Thána	...	...	...	1	1	1	1	2	...	1	3	203
3	South do.	...	...	...	1	1	1	1	2	...	1	3	203
4	East Khándesh ...	...	...	...	1	...	1	2	2	...	1	3	183
5	West do. ...	...	...	...	1	...	1	2	2	...	1	3	183
6	Násik	...	...	...	1	...	1	2	2	...	1	3	183
7	Ahmednagar	...	...	...	...	1	1	2	2	...	1	3	173
8	Poona	...	...	...	1	...	1	2	2	...	1	3	183
9	Sátára	...	...	...	1	...	1	2	2	...	1	3	183
10	Sholápur	...	...	...	...	1	1	2	1	...	1	3	158
11	Surat	...	...	...	1	...	1	2	2	...	1	3	183
12	Panch Mahális	...	...	...	...	1	1	2	1	...	1	3	158
13	7 Sub-Assistant Conservators' Offices ...	...	...	...	...	...	...	...	7	...	...	14	217
	Total ...	1	1	1	10	7	13	22	27	1	12	52	2,789

82. The total expenditure upon forest establishments during the year, has amounted to Rs. 4,55,835-3-6 under the following budget sub-heads :—

	Rs.	a.	p.
B. *I a*—Conservator's salary	18,000	0	0
B. *II. a.*—Conservator's travelling allowance	2,400	0	0
B. *I. b.*—Superior officers' salary	1,02,417	4	7
B. *II. b.*—Superior officers' travelling allowance ...	25,378	12	4
B. *I. c.*—Subordinate officers' protective establishments' salary.	2,48,537	15	2
B. *II. c.*—Subordinate ditto travelling allowance ...	14,326	7	1
B. *I. d.*—Office establishments' salary	33,376	3	5
B. *II. d.*—Office ditto travelling allowance	11,398	8	11
Total ...	4,55,835	3	6

2.—GENERAL PROTECTION AND BREACHES OF THE FOREST LAW.

83. A comparative statement showing the cases tried before Magistrates for breaches of forest law during the year, and the one preceding it, is given below:—

No.	Division.	1888-89.		1889-90.		Percentage of failures.	
		Prosecutions.	Acquittals.	Prosecutions.	Acquittals.	1888-89.	1889-90.
1	North Thána	72	34	106	22	47·2	20·7
2	South do.	209	51	208	34	24·4	16·3
3	East Khándesh	48	15	371	22	31·2	5·9
4	West do.	126	27	186	14	21·4	7·5
5	Násik	48	5	105	19	10·4	18·0
6	Ahmednagar	53	15	59	18	28·3	30·5
7	Poona	279	47	216	57	16·8	26·3
8	Sátára	44	17	27	13	38·6	48·1
9	Sholápur	101	34	118	45	33·6	38·1
10	Surat	9	...	8	2	...	25·0
11	Panch Mahálś	42	10	37	7	23·8	18·9
	Total ...	1,031	255	1,441	253	24·7	17·5

84. At the close of last year 108 cases of forest offences were awaiting trial, and during the year 1,432 new cases were presented: thus making a total of 1,540 cases in all. Of these, 1,441 cases were disposed of, as shown above, leaving 99 cases pending at the close of the year in different divisions, as given below:—

No.	Division.	Number of Cases.
1	South Thána	6
2	East Khándesh	9
3	West do.	5
4	Násik	18
5	Ahmednagar	14
6	Poona...	27
7	Sátára	1
8	Sholápur	16
9	Surat	2
10	Panch Mahálś	1
	Total ...	99

85. The general protection of the forests may be considered to have been satisfactory. Seeing that the areas under watch and guard by forest subordinates, in the Northern Circle, extend over 8,600 square miles and 597 acres of reserved and protected forest, and also include wide stretches of cultivation areas occupied under the survey settlement, the reserved trees growing upon which are the property of Government, it cannot be urged with reason, that 1,432 cases brought up before the Magistrates during 12 months, points to undue severity, or a too hasty resort to the higher criminal courts. The percentage

of failures of the cases presented for trial during the year, has been comparatively low, which may be taken to indicate that prosecutions have been conducted with care, and have not been instituted without proper cause, and also that the supervision exercised by Divisional Forest officers has been searching and detailed. In the two Thána, the two Khándesh and the Panch Maháls Divisions the best results appear; and they reflect credit upon Messrs. Desái, Fagan, Gleadow, Millett, Keys, Divisional Forest officers and the Sub-Assistant Conservators and the Range Forest officers under them. In the Deccan divisions the proportion of failures has increased, and it is difficult to assign a cause for this. At the same time it must be mentioned that the privileges of shikár and of carrying cutting instruments into the forests for collecting ráb, thorns and fire-wood, lead to much mischief and render the detection of forest offenders a matter of very great difficulty. The exemption of timber and other produce brought from occupied and other private lands from the operation of the rules under Section 41 of the Forest Act affects prejudicially, as has been reported often, the protection of the State forests and of State timber upon private holdings, but the newly amended Forest Act will no doubt supply the remedy.

86. A classification of the 1,432 new cases prosecuted during the year is given below, as prescribed by the Forest Department Code:—

No.	Division.	Character of Offences.					Remarks.
		Injury to Forests by Fire.	Unauthorised Fellings or appropriation of Wood and minor Forest Produce.	Grazing without Permission or in Tracts where Grazing is prohibited.	Other Offences.	Total.	
1	North Thána ...	1	102	.....	3	106	
2	South Thána ..	2	150	1	47	200	
3	East Khándesh ..	8	107	8	255	378	
4	West Khándesh...	27	38	3	103	171	
5	Násik	3	45	6	55	109	
6	Ahmednagar ..	...	23	37	7	67	
7	Poona	1	76	105	28	210	
8	Sátára	...	12	9	6	27	
9	Sholápur ..	...	11	86	19	116	
10	Surat	...	9	.....	1	10	
11	Panch Maháls ...	...	37	1	...	38	
	Total ..	42	610	256	524	1,432	

87. The number of cases treated in accordance with Government Resolution No. 7844, dated 3rd October 1884, in the Revenue Department, by Assistant Collectors, under Section 43 of the Land Revenue Code, in the protected forests of the two Thána divisions, appears in the following table, as compared with that of the previous year:—

Forest Division.	1888-89.					1889-90.					Remarks.
	No. of Cases.	Value of Forest Produce.	Acquittals.	Convictions.	Amount of Fines.	No. of Cases.	Value of Forest Produce.	Acquittals.	Convictions.	Amount of Fines.	
		Rs. a. p.			Rs. a. p.		Rs. a. p.			Rs. a. p.	
North Thána...	42	275 15 0	...	42	275 15 0	29	119 14 1	...	29	161 2 1	
South do. ...	61	89 6 9	...	61	118 12 3	58	245 9 10	...	58	423 10 4	
Total ...	103	365 5 9	...	103	394 11 3	87	365 7 11	...	87	584 12 5	

88. A comparative statement showing the number of cases compounded under Section 67 of the Forest Act, in the several divisions of the Northern Circle, is given below, in accordance with the instructions contained in Government Resolution No. 3527, dated 2nd May 1884, in the Revenue Department:—

No.	Division.	Taken into Court.		Compounded under Section 67 of the Forest Act.		Total Number of Cases.	
		1888-89.	1889-90.	1888-89.	1889-90.	1888-89.	1889-90.
1	North Thána	65	106	38	46	103	152
2	South Thána	204	208	306	211	510	419
3	East Khándesh	42	371	280	446	322	817
4	West Khándesh	107	186	454	492	561	678
5	Násik	52	165	1,137	852	1,189	957
6	Ahmednagar	50	59	2,199	2,157	2,249	2,216
7	Poona	312	216	439	742	751	958
8	Sátára	37	27	250	280	287	307
9	Sholápur	109	118	952	1,165	1,061	1,283
10	Surat	7	8	17	26	24	34
11	Panch Mahâls	42	37	82	68	124	105
	Total ...	1,027	1,441	6,154	6,485	7,181	7,926

89. The large number of cases compromised in almost all the divisions tends to show that a spirit of conciliation has actuated Forest officers in dealing with forest offenders. In the above-ghâts divisions grazing in the closed compartments is the prevailing crime, and a very natural one it is, when it is remembered that no such grass is to be found elsewhere over the country, when the season ages, as is to be seen within the closed compartments of the forests, in the Deccan, which are under treatment for reboisement. The sight of luxuriant pasturage offers an irresistible attraction to hungry cattle and to owners of lean kine, and more particularly to wandering graziers. Trivial offences of other kinds, which are not committed of set purpose and in defiance of the law, are invariably treated under Section 67. This system of disposal of trivial offences works, on the whole, satisfactorily, and although it may produce a less deterrent effect than a criminal prosecution does, still there can be no doubt that it tends to improve forest protection, to avoid derogating from the self-respect of such forest offenders as do not belong to the criminal classes, while at the same time it does not take Forest officials away from their other duties of conservancy and works to devote hours and days to the conduct of criminal prosecutions in distant magisterial courts.

90. The following statement shows the amounts realised from cases which were compounded under Section 67 of the Act in the several divisions of the Northern Circle during the year, as directed in Government Resolution No. 8738, dated 24th December 1887, in the Revenue Department :—

No.	Division.	Amount.		
		Rs.	a.	p.
1	North Thâna... ...	626	11	0
2	South do.	1,202	1	6
3	East Khándesh ...	1,842	0	9
4	West do. ...	2,091	14	3
5	Násik...	3,366	14	8
6	Ahmednagar	3,271	7	11
7	Poona...	2,768	6	5
8	Sátára	373	3	1
9	Sholápur	1,294	15	11
10	Surat	145	9	0
11	Panch Mahâls ...	91	10	7
	Total ...	17,074	15	1

Where illicit grazing, as in the above-ghâts divisions, has been the predominating offence compounded, there the amount of recoveries has been rateably lower; where timber has been cut or stolen the value thereof has caused the damages to be comparatively large.

91. The following statement exhibits the number of cattle of different kinds impounded in the several divisions of the Northern Circle during the year, under section 69 of the Forest Act, for trespassing in forest areas set apart for plantations, or in portions of forest reservations closed against the grazing of cattle:—

No.	Division.	Cows and Bullocks.	Buffaloes.	Camels.	Horses.	Asses.	Sheep.	Goats.	Total.
1	North Thána	884	142	...	...	...	215	...	1,241
2	South Thána	488	225	...	...	1	239	...	953
3	East Khándesh ...	4,499	704	...	5	...	2,097	3,633	10,938
4	West Khándesh ...	9,593	1,030	5	69	1	3,321	2,824	16,843
5	Násik	5,406	217	...	40	7	2,763	9,455	17,888
6	Ahmednagar	32,318	1,809	1	399	114	27,680	14,048	76,369
7	Poona	10,076	860	...	122	75	12,927	7,531	31,591
8	Sátára	5,085	644	4	68	78	7,209	1,800	14,888
9	Sholápur	14,761	1,355	1	160	235	7,304	1,678	25,494
10	Surat	66	9	...	...	...	...	40	115
11	Panch Mahâls	69	49	...	7	...	304	617	1,046
	Total ...	83,245	7,044	11	870	511	64,059	41,626	1,97,366

92. The total of number of cattle impounded during the year is slightly less than that of the previous year, which was 200,615. In the North Thána Division Mr. Gleadow states that great difficulty is experienced by the scarcity of pounds, very few villages being furnished with these useful institutions, for examples in the Máhím Táluka with its 181 forest villages there are only 3 pounds, in the Dáhánu Táluka where there are 202 forest villages, there are only 6 pounds, in Váda with 135 forest villages but 3 pounds; consequently cattle in order to be placed into a pound have, in the majority of cases, to be driven from 10 or 15 miles, and in such circumstances the owners of cattle find sufficient time to rescue their animals from the Forest Guard who may be taking them to the pound.

93. In the Ahmednagar Division, it will be seen, that there is a decrease of nearly 10,000 impoundings, as compared with the previous year; however 76,369 may appear at first to be a large number to be impounded in a single division, but more than half consists of sheep and goats. Government, and the Government of India also, very rightly lay strong stress upon a rational treatment of grazing in forests which will be to the interests of forestry as well as of pasturage; and in this view they urge the desirability:

(*a*) of limiting the number of cattle,

(*b*) of fixing a season when grazing will be allowed,

(*c*) of closing forests in rotation for a sufficiently long period.

94. It goes without saying that no system of forestry can have free course and be satisfactory in its most vital points if cattle are allowed into the portions of the forests which are closed for reproduction, natural or artificial; that no regulation of grazing in the forests upon the lines given by the Government of India can be carried out when cattle are permitted to graze in open forests in excess of the number prescribed according to the defensible character of the forest vegetation as well as the capabilities of grazing; that no season can be enforced when cattle will graze in defiance of prescription at all, and any, decided times; that closure becomes a farce and a bye-word when it is freely violated.

95. The closed compartments of the Deccan forest lands, which are chiefly forests under regeneration, present to view the most attractive pasturage in the whole country side, and no wonder that cattle hungering for a good meal are attracted to enter and eat, and that cattle owners, more particularly wandering graziers, drive their cattle in wilfully to graze, risking detection, in the knowledge that the cattle-pound fee will be a very cheap price to pay for the enjoy-

ment and benefit their animals have obtained. There is no severity in impounding cattle of people, who declining to pay the ridiculoulsy low grazing fees imposed upon cattle allowed into the open compartments of forests, or who weighing the cost of cattle-pound fees against the value of the illicit grazing, wilfully drive their cattle into closed forests. The impounding of such cattle does not point to the system of rotation and closure being inappropriate, nor to the size of working circles being too small, their number being too great, nor to the system of management being too detailed. It shows that the forest subordinates are striving honestly to perform their duties of conservancy for which they are employed: it shows that the vegetation, be it only inferior such as grass, is growing in luxuriance upon the bleak stony hill-sides which only a few years ago were bare and barren, and that consequently the reboisement of these lands is in active operation: it shows moreover that the pound fees are not sufficiently high to be deterrent, and it shows that greater attention is required to be given to the forest-grazing question. Government have in a recent Resolution recorded: "It is notorious that in every village many old, wornout or useless head of cattle are kept which are of no service to their owners and are not employed by them for any purpose but which they simply keep until they die of old age, disease or starvation, leaving them to forage for themselves with the cows, calves and other village cattle and never stall-feeding them or providing them with food." To impound such cattle when they trespass into closed forest is an unavoidable proceeding. Wandering graziers come and go, roaming about with large flocks of sheep and goats and horned cattle, and deliberately drive the animals into any grass or other lands they may come across, regardless whether the lands are private or public, whether they are forest lands, open or closed; to impound such cattle is the only protection open to the rayats, and is a very lenient plan of punishment resorted to by Forest officers. When cattle are permitted to graze in compartments which have served recently as coupes and been closed for a term of years for reproduction, the future of the forests of the working circle thus maltreated is jeopardized, and practically the essence of the working plan is blotted out. Of the 8,000 square miles of forests constituted under the Forest Act, which were in maintenance during the year of this report, not more than one-fourth portion, if so much, has been closed; this proportion, owing to the force of local conditions requiring forest grazing to be provided to the cattle of forest villages in the immediate proximity of the forest villages, is distributed in patches in all and many directions; and the fact that 197,366 head of cattle, of which more than one-half are sheep and goats, should have been caught trespassing into these closed areas is not extraordinary.

3.—CIVIL SUITS.

96. The suit which was brought against the Forest Department in the North Thána Division by one Balwantráo Hari Gavankar, referred to in paragraph 101 of last year's report, has been heard by the Assistant Judge of Thána, who decided that the plea urged by Balwantráo Hari, that the figures entered in his tender were by accident transposed, was a true one, but that the contractor was to some extent responsible for his carlessness: and the Judge directed accordingly that half the earnest money should be returned to the plaintiff, each party paying its own costs.

97. One Gangádhar Vishwanáth Kondkar filed a suit against the Department in the District Court of Thána to recover Rs. 2,700 as damages for the suspension and cancellation of his contract and confiscation of his material in the Rajiwli Coupe of 1888-89. This suit was not heard up to the close of the year. Government in their Resolution No. 2558, dated 12th April 1890, have sanctioned its defence.

98. The suit brought against the Department by Alli valad Mohidin, Patel of Bhiwndi in the South Thána Division, mentioned in paragraph 102 of last year's Administration Report, was decided in favour of the plaintiff and damages amounting to Rs. 72-7-8 were awarded and paid.

99. The suit instituted by Dipchand Bálkison Lodi in the District Court of Poona against Mr. Wáman Rámchandra Gaundé, referred to in paragraph 103

of last year's report, has been decided against Mr. Wáman Rámchandra Gaundé personally. The immunity, which as a public servant the Sub-Assistant Conservator of Forests claimed under Section 73 of the Forest Act, and which Government had acknowledged he was entitled to, in the circumstances of the case, by undertaking the defence of the suit, was disallowed, and judgment given in favour of the plaintiff against Mr. Wáman Rámchandra Gaundé in his private capacity for Rs. 341, with costs in proportion. On receiving copy of the judgment the Conservator again represented the whole matter to Government soliciting their sanction to an appeal being made to the High Court, and the Remembrancer of Legal Affairs supported his proposal with a very strong favouring opinion, so that Government in their Resolution No. 4028, dated 3rd June 1889, Revenue Department, sanctioned an appeal be preferred; this was accordingly done, but it did not come up for hearing during the year. However the case has been decided since, and the High Court has reversed the judgment of the Poona Court, has upheld the claim of the Sub-division Forest Officer to protection under section 72 of the Forest Act, and has decided against the original plaintiff, Dipchand Bálkison Lodi, with costs all through.

4.—FOREST FIRES.

100. The following statement exhibits the results of fire conservancy in the several divisions of the Northern Circle during the year as compared with those of the previous year :—

No.	Division.	Forest Area placed under protection against Fire.		Acreage burned.		Percentage burned.		Expenditure incurred.		Remarks.
		1888-89.	1889-90.	1888-89.	1889-90.	1888-89.	1889-90.	1888-89.	1889-90.	
								Rs.	Rs.	
1	North Thána ..	381,296	449,347	15,049	8,041	3·9	1·7	1,106	1,175	The figures entered in column "Forest area under protection against Fire" during 1889-90 include the areas provisionally notified under Sections 4 and 28 of the Act which are in charge of the Forest Department but which are not included in Form No. 49.
2	South Thána ..	434,965	506,409	13,914	16,312	3·1	3·2	473	683	
3	East Khándesh ..	545,921	562,173	15,867	27,972	2·9	4·9	22	70	
4	West Khándesh ..	917,567	1,1[illegible]0,888	643,169	590,745	70·0	51·3	45	138	
5	Násik	817,828	763,327	12,074	6,360	1·4	0·83	36	14	
6	Ahmednagar ..	556,885	563,512	2,555	817	4·5	0·14	..	..	
7	Poona	473,748	477,935	1,635	4,793	0·34	1·0	..	74	
8	Sátara	426,269	4[illegible]7,189	481	480	0·11	0·10	15	8	
9	Sholápur	174,526	177,242	1,852	665	1·0	0·37	..	..	
10	Surat	473,524	478,109	298,531	215,000	62·3	44·9	..	2	
11	Panch Mahál ..	206,381	207,765	11,088	13,317	5·3	6·4	..	..	
	Total ..	5,413,910	5,774,166	1,016,215	884,502	18·7	15·3	1,697	2,164	

101. It will be seen that fire conservancy was not unsuccessful, for the improvement in this important branch of forest management which has been reported in detail last year, has been more than maintained. Forest officers have given great care and attention to the prevention of fires and to finding out the origin of fires, and the subordinate protective establishments have, speaking in a general way, worked right well in watching and guarding against and in prompt attack upon occurring fires.

102. The written proceedings required to be submitted by the Range Forest Officer, upon every fire appearing in the forests of his range, has had a beneficial effect against the spread of forest-fires, as also in the adoption of precautions by forest subordinates, and in keeping the latter constantly on the alert. In the North Thána Division the improvement this year is marked, the area traversed by fire being 8,041 acres against 15,049 in the previous year; and although the usual precautions of burning fire-traces along spurs, sides of roads, boundaries of forest blocks and of coupes, &c., were undertaken to prevent the spread of fires from outside still the wide world privileges of coming and going, to cut and take ráb material, to collect firewood, to shikár, and the burning of grass under mhowra trees were the chief sources of forest fires, which broke out generally inside or within the forest boundaries. The increase of 2,398 acres burnt in South Thána, over the figures of last year, is owing to the extended operations of the contractors constructing the duct line of the Tansa Water Work through reserved forests in the Bhiwndi and Sálsette Ranges. Thousands of labourers were employed upon this work; and although great care was taken to guard against fires, still, despite all precautions, the forests were burnt.

103. In the two forest divisions of Khándesh, the East and the West, the former exhibits an inconsiderable increase in the percentage of area burned,

while the latter, a decrease over the figures of the peceding year. Although the spread of the fires in West Khándesh has been somewhat less, still the percentage of failures is the heaviest in the Northern Circle; and Mr. Fagan, the Divisional Forest Officer, very correctly records that so long as the people are free to enter the reserves, the fires in his division will occur as now, year after year, notwithstanding all the efforts of the Divisional Forest Officer and his subordinates. The Collector of Khándesh, Mr. Loch, in forwarding the Administration Report of the West Khándesh Division, writes, with reference to forest fires:—

"The undersigned regrets that so far no improvement has taken place in the matter of forest-fires, though Mr. Fagan and his subordinates have exerted themselves successfully in the detection of offenders in many cases. The question, for a further curtailment of privileges in the forests where fires have been most frequent, is now under consideration."

104. In all other divisions of the Northern Circle except Surat fire conservancy shows decided improvement, and although the Surat Division exhibits a decrease in the area burned, still 44·9 is a large percentage as compared with that of other divisions; but the leased Dángs are responsible for this very bad record; here the inhabitants are not under the control of the Forest officers, being the subjects of the Bhil Rájás. The forests are as often set fire to intentionally as carelessly, and as the population is sparse, it is difficult to get together a sufficient number of men to fight successfully against a big fire. When forest reservations have been selected and demarcated in the Dángs, it is probable that fire conservancy will have a better chance.

105. Village officers and forest villagers have rendered cordial assistance in many directions in the suppression of forest-fires. But a fire battle is not an easy fight as may be imagined by those who have not seen a long wave of fire roaring over a savannah, travelling at great pace, where the grass is more than 6 feet high. When all officers have worked well individual praise might appear to be invidious; however the difficulties of the situation give comparative value to the merit of success, and to Mr. F. R. Dasái, Deputy Conservator of Forests, 1st Grade, and Divisional Forest Officer, East Khándesh, the Conservator must accord special thanks for the fire discipline of his division.

5.—GRAZING AND FODDER GRASS.

106. Notwithstanding the abnormally high receipts from grass and grazing recorded last year, there was a further increase of Rs. 14,882 in the year under report, the total receipts under II*d.* being Rs. 3,42,037 against Rs. 3,27,165 in the previous year; and this result is due, in a great measure, to the more efficient working of the fee system, which is becoming better understood by the people.

107. The arrangements of the year regarding the supply of grass and provision for grazing, as compared with the totals of last year, are exhibited in the following table:—

No.	Division.	Valuable Kurans of Fodder Grass.		Fee Grazing.			Auction Grazing.		Free Grazing.			Grass given to Commissariat Department.		Area closed to Grazing	Miscellaneous Grazing Revenue.	Total Grazing Revenue
		(a) Area.	(b) Amount realised.	(a) Area.	(b) Number of Animals grazed.	(c) Amount realized.	(a) Area.	(b) Amount realized.	(a) Area.	(b) Number of Animals grazed.	(c) Money value of the Privileges or Right	(a) Area.	(b) Amount			
		Acres.	Rs.	Acres.		Rs.	Acres.	Rs.	Acres.		Rs.	Acres.	Rs.	Acres	Rs.	Rs.
1	North Thána	7,497	13,436	...	4,046	1,007	...	...	353,014	171,750	42,937	...	...	15,023	...	14,443
2	South Thána	4,005	925	41,044	18,321	4,956	...	...	41,044	178,286	36,000	...	...	20,916	159	6,040
3	East Khándesh... ...	31,196	11,269	472,466	1,97,893	28,131	...	...	286,851	12,463	1,470	...	...	38,166	5,647	45,047
4	West Khándesh ...	20,653	7,659	948,123	5,20,842	63,783	...	...	846,966	81,000	15,300	...	...	213,471	7,339	78,781
5	Násik	32,316	21,660	514,455	2,25,322	32,104	1,414	121	329,741	187,468	31,794	...	...	131,707	1,320	55,205
6	Ahmednagar	5,204	1,485	313,106	1,25,895	18,079	10,049	2,565	14,219	43,830	1,607	4,275	6,412	215,889	3,911	26,040
7	Poona	47,851	29,761	156,470	1,05,638	18,492	55,484	858	131,357	21,483	50,000	19,392	38,000	56,423	1,912	51,023
8	Sátára	43,279	24,429	120,411	39,440	5,399	126,774	12,054	135,301	...	17,500	...	...	30,791	30	41,913
9	Sholápur	44,584	10,585	28,538	32,306	4,875	...	...	12,374	60,736	7,793	...	...	115,737	1,250	16,710
10	Surat	...	...	41,717	5,900	615	301	42	706	1,000	250	...	...	915	...	657
11	Panch Mahális	16,983	1,524	40,100	20,114	4,642	...	...	132,000	45,000	13,000	...	...	33,739	13	6,179
	Total ...	253,568	1,22,733	2,676,430	12,95,717	1,82,083	194,022	15,640	2,283,573	803,016	2,17,651	23,667	44,412	872,777	21,581	3,42,037
	Total for 1888-89 ...	271,694	1,30,868	2,800,372	15,62,784	1,63,342	207,961	12,530	975,993	877,367	2,08,630	12,389	39,387	633,175	20,425	3,27,165

108. Although the gross receipts are in excess of that of the past year, still there is a decrease in certain divisions as will be seen from the following comparative statement :—

No.	Division.	Grazing Revenue, 1888-89.	Grazing Revenue, 1889-90.
		Rs.	Rs.
1	North Thána	13,316	14,443
2	South Thána	7,299	6,040
3	East Khándesh	46,372	45,047
4	West Khándesh	54,870	78,781
5	Násik	43,293	55,205
6	Ahmednagar	40,864	26,040
7	Poona	52,355	51,023
8	Sátára	40,500	41,912
9	Sholápur	21,769	16,710
10	Surat	794	657
11	Panch Mahals	5,733	6,179
	Total ...	3,27,165	3,42,047

109. In the North Thána Division the increase of Rs. 1,127 is due to better prices for fodder grass. In the South Thána Division the decrease of Rs. 1,259 is attributed to a small number of cattle having come from above the ghâts in search of pasturage in the forests. In the East Khándesh Division the abnormal receipts under "Cut grass" of the previous year could not be reached, and hence the decrease of Rs. 1,325. The increases in West Khándesh and Násik Divisions, on the other hand, are due to excellent prices obtained at auction sales for fodder grass, for which there was considerable demand owing to a scarcity of grass outside of forest boundaries through a generally deferred and capricious rainfall.

110. The decrease of Rs. 14,824 in Ahmednagar is due to none of the closed reserves having been thrown open to grazing this year as last, to the postponed arrival of the rains, and to the larger forest area placed at the disposal of the Commissariat Department for cutting and taking fodder-grass. The slight decrease of revenue in the Poona Division is accounted for by the enormous increase in the forest-area assigned to the Commissariat Department, for exploitation of cut grass, being 19,000 acres against 11,000 in the previous year. The value of the grass and grazing of the forest lands thus allotted to the Commissariat Department may be calculated at the rate of Rs 2 per acre, which will give Rs. 38,000.

111. The increase in the Sátára Division is due mainly to keen competition for fodder grass areas, the crops upon which were sold for cutting or for grazing, and also, in a small degree, to increased collections of grazing fees. The decrease in Sholápur is owing to 42,648 acres of forest lands which are in the ordinary closed list having been thrown open to grazing on fees last year, which regrettable proceeding, in view of reboisement, was not adopted again during the year of the report. The decrease and increase in the Surat and Panch Mahâls Divisions call for no special explanation as they are due to such fluctuations in the market as always occur in commercial business.

112. Government very rightly insist that the claims of forest villagers upon the forests for the grazing of their cattle must be recognized as a determining element in the regulation of forest grazing: seeing how numerous are the forest villages and the geographical relation between villages and forests, so that a system of large forest-blocks with large solid areas of closed forest, and a larger area of open forests would result in locating many of the open pasturage compartments of forests a long way distant, in not a few cases more than a day's journey, from villages the cattle of which have admitted claims to enjoy privileges of free, or fee-grazing for some portion, if not all, of their cattle, a detailed system of regulation is absolutely necessary. Forest-blocks

have to be of small size, and forest compartments in consequence, to be of small area, so that the open portions of a forest-block may be within convenient distance of the forest villages which have contributed forest and waste lands to the formation of the forest-block. If what may possibly be termed the minute system of working forest grazing on rotation, at present in practice in the Deccan divisions, as well as in other forests of the Presidency, were to be abandoned for a system upon broader lines with large working circles, with wide stretching pasturage ranges and with comparatively far-reaching closed belts, not only would forest villagers suffer great inconvenience, but receipts from grazing would very appreciably decline; so that the change of management would cause a heavy loss of revenue, and at the same time would set the forest villagers in opposition to forest conservancy to a far greater degree than any other kind of restriction could effect.

113. The subject of the regulation of forest grazing has been under earnest consideration by Government for a long time. Reports by Revenue as well as Forest officers had been called for and submitted. The Forest Commission gave careful attention to this matter, and made valuable recommendations and suggestions, and the final orders which were issued after the close of the year, and will appear in next year's report will no doubt work greatly to the advantage of forest conservancy and to the real interests of rural cattle. The aim of these orders is to exercise closer superintendence over the cattle entered for grazing into the forests, so that rotation in a sufficiently long period of closure, limitation of numbers, and the observance of a grazing season for open areas, may be applied, together with a restriction upon the free and illicit grazing which have been so prevalent in the past. There has been no proposal to expand the sub-divisions of forest working circles with a corresponding numerical decrease of the latter. On the contrary, united opinions urge that for the convenience of the village cattle, in deference to the habits and customs of the country, each forest grazing circle must be of small compass.

114. The year's census of cattle of all descriptions in the Collectorates which come within the boundaries of Northern Forest Circle, gives the following tabulated return: —

No.	Collectorate.	Cows and Bullocks.	Buffaloes.	Horses.	Asses and Mules.	Sheep.	Goats.	Camels.	Elephants.	Total.	Remarks.
1	Thána	386,342	92,998	1,480	25	3,051	46,699	...	...	530,595	
2	Khándesh	666,179	139,725	22,137	7,886	74,993	74,993	4	...	985,857	
3	Násik	448,080	64,164	15,224	2,660	95,165	104,548	...	...	727,841	
4	Ahmednagar	622,293	59,090	22,774	5,167	280,176	158,291	...	...	1,147,796	
5	Poona	520,666	84,965	14,022	3,971	169,501	169,502	...	...	962,627	
6	Sátára	512,750	158,828	15,768	2,619	386,148	89,493	27	3	1,165,636	
7	Sholápur	426,971	75,969	12,041	3,066	178,584	178,585	...	...	875,516	
8	Surat	252,354	81,148	985	...	32,235	68,722	...	...	435,444	
9	Panch Mahâls	259,380	37,566	2,862	1,707	6,439	27,833	35	...	515,822	
10	Ahmedabad	283,366	132,164	6,057	...	38,134	38,134	...	...	497,755	
11	Kaira	218,107	197,686	2,557	5,679	23,906	23,907	199	3	472,044	
12	Broach	81,326	52,514	2,487	1,382	15,166	23,711	145	...	176,681	
	Total ...	4,657,759	1,176,717	116,394	34,402	1,303,498	1,004,418	410	6	8,293,614	

6.—FENCING.

115. The following statement shows the fencing work undertaken in the North Thána Division during the year:—

No.	Táluka.	Description of Fence.	Length in Miles.	Cost.	Remarks.
				Rs. a. p.	
1	Sálsette ...	Wire ...	5¾	253 6 0	Old wire 4,820 lbs. purchased from Telegraph Store Department at a cost of Rs. 323 was on hand from last year, and 10,441 lbs. of such wire were purchased during the year at a cost of Rs. 579 for fencing purposes.
		Cactus ...	1½	117 13 6	
2	Bassein	Wire ...	1½	246 6 0	
3	Váda	Wire ...	1	81 1 0	
		Total ...	9¾	698 10 6	

116. In the South Thána Division some fencing with wire was constructed in the Kalyán and Sháhápur Ranges. The wire used in Kalyán being old telegraph wire, obtained from the Telegraph Department, while the seven strand wire and barbed wire used in the Sháhápur Range was purchased in Bombay. About two miles were thus fenced at a cost of Rs. 992.

117. Cactus fencing over 49,240 running feet was planted in the Ahmednagar Division at a cost of Rs. 193-14-3, and by Beat Guards over 20,000 feet without extra cost to Government.

118. In the Poona Division two coupes at Lonikalbhor in the Haveli Range, and 2 at Handalwadi in the Bhimthadi Range were fenced with wire at a cost of Rs. 582-15-3. The wire used was seven strand wire for the 3 lower wires and barbed wire for the upper one.

119. Thorn and aloe fencing over 57,690 running feet was put down in the Sátára Division round different plantations at a cost of Rs. 194. Chilari seed was also sown round some of the plantations, but owing to an unfavorable monsoon these hedges were not very successful.

120. In the Sholápur Division 46,691 feet were fenced in with aloe, sher, and partly with cactus, at a cost of Rs. 485-10-0; seven strand wire and barbed wire was obtained from Bombay to enclose an area of 424 acres in the Karmála Range, but the work was not begun before the close of the year.

121. *Cactus.*—Prickly-pear makes a good fence, but it grows so rapidly and spreads so greatly that if it were to be adopted largely for fencing forests, there would be thousands of miles of prickly-pear to be trimmed and kept in order annually, which would entail a very large and unremunerative outlay—unremunerative because the trimmings are not saleable, nor do they easily admit of destruction and disposal. Taking these circumstances into consideration the Conservator issued an order to Forest officers, in whose divisions prickly-pear abounds, that prickly-pear fencing should be adopted only in very exceptional circumstances.

7.—NATURAL REPRODUCTION.

122. There are two kinds of natural reproduction, the one by means of seed shed by mature trees, and the other by means of coppicing from the roots of cut trees. The latter was very good indeed in the Northern Circle, as generally, it is not so liable to destruction by fire. The improvement in fire conservancy has had a very beneficial effect on the former. Natural reproduction is a mighty power available for reclothing forest estates, provided there is sufficient and seasonable rainfall and due care is taken to protect the areas against fire and the grazing of cattle, especially sheep and goats. In the two Thána Divisions the coppice shoots that appeared in the coupes between August and December, had attained considerable dimensions by the hot weather. In the Karjat Táluka coppice shoots of 3 and 4 years old have attained the height of 25 and 30 feet with a diameter of 4 inches. In places where grazing is never allowed seedlings of teak and blackwood have sprung up in abundance. In the two Khándesh Divisions the reproduction by seed, supplemented by coppice shoots, was vigorous in closed forests and in places not traversed by fire.

123. In the Divisions of Násik, Ahmednagar, Poona, Sátára and Sholápur, natural reproduction is progressing steadily, and the results are very encouraging, although the lateness and unequal distribution of rain in Ahmednagar and Sátára has, to some extent, retarded progress. Lands which were absolutely bare are getting covered with seedlings, which gradually develop into trees, and thus the assisted efforts of nature in this work are decidedly successful.

124. In the Gujarát Divisions of Surat and Panch Mahál the rainfall was good and fairly seasonable. Reproduction, both by self-sown seeds and shoots from stools, was good, although injured by fires where they occurred.

8.—ARTIFICIAL REPRODUCTION.

125. In the North Thána Division 291 khandis of mixed seeds were broadcasted and dibbled and 100,006 seedlings were transplanted from forests or

nurseries into blanks; 17,375 bámbu rhizomes were planted. A nursery of casuarina was also started in the Sophála plantation. Hirda seeds were also sown at Rájawli in the Bassein Range, but did not germinate freely. In the South Thána Division 60 khandis of miscellaneous seed collected by Forest Guards were broad-casted over 1,034 acres in all the ranges, and 1,250 acres were pitted over and planted, the majority being in the Khálápur and Karjat Ranges, in order to cover the areas denuded by Thákúrs, who had made dálhi clearances in the Mátherán and neighbouring forests. About 25 acres in the Tánsa catchment area were successfully planted up with seedlings of teak, ain, mango, khair, jámbhul, dháwra, &c., and the result has been very satisfactory.

126. In the East Khándesh Division 1,185 acres were brought under cultural operations by sowing 24 khandis of different kinds of seeds, but the results were not so good as desired. The usual systems of plantations were followed in the West Khándesh Division, but the rains were late and were not favourable, and forest fires, the great enemy of plant life, worked considerable damage. However the anjan reshoots in the coupes of the last few years were thriving.

127. The plantation operations in the Násik Division, which extended over 1,291 acres in several ranges, were fairly successful, although the deficiency of moisture was not conducive to this end. In the Ahmednagar Division 15,801 acres were broad-casted with 185 khandis of seeds, and 713 acres were pitted over. The results were fairly satisfactory. The plantations at Dongargan in the Nagar Range and at Hanmantgáon in the Ráhuri Range are in good condition.

128. In the Poona Division 145 khandis of different kinds of seeds were collected by Forest Guards and were sown by hired labour over 841 acres and in 115,740 pits dug by Beat Guards. In the Sátára Division 95 khandis of seeds collected by Beat Guards were sown and broad-casted over 15,873 acres and germinated freely, especially round Mahábaleshvar, where a satisfactory number of seedlings of jámbhul, hirda, pisa and of other kinds are to be seen. Bámbus were also planted and are in a very flourishing condition. The area operated over in the Sholápur Division was 2,754 acres, and the seed sown in them germinated freely and the plants appear in good health. In the Surat Division no regular cultural operations were undertaken, as natural reproduction is vigorous. The small plantation at Chikhli has shown fairly good results. In the Panch Mahals 146 acres were planted over with mixed seeds collected by Forest Guards, but the results were not very satisfactory.

129. The total expenditure incurred under plantations in the several divisions of the Northern Circle, during the year, which amounts to Rs. 11,056 against Rs. 10,177 in the previous year, and the areas treated under regular plantations and cultural operations, are exhibited in the following statement :—

No.	Division.	Regular Plantations.				Cultural Operations.				Total Cost.		
		Area in Acres.				Area in Acres.						
		On 1st April 1889.	Added.	Excluded.	On 31st March 1890.	On 1st April 1889.	Added.	Excluded.	On 31st March 1890.	Rs.	a.	p.
1	North Thána	2,209	1	...	2,210	5,917	4,649	...	10,566	850	0	0
2	South Thána	467	3	17	453	4,014	2,981	...	6,995	1,682	0	0
3	East Khándesh	10	...	10	...	12,132	1,185	...	13,317	15	0	0
4	West Khándesh	38	5	...	43	19,460	349	167	19,642	835	0	0
5	Násik	...	...	...	..	4,947	1,291	...	6,238	2,467	0	0
6	Ahmednagar	142	...	...	142	7,424	1,129	...	8,553	1,291	0	0
7	Poona	...	...	...	..	34,667	2,718	...	37,385	1,167	0	0
8	Sátára	2,571	187	...	2,758	85,751	15,874	...	101,625	542	0	0
9	Sholápur	...	...	...	...	22,445	5,368	...	27,813	2,178	0	0
10	Surat	...	...	...	...	917	20	22	915	1	0	0
11	Panch Mahals	26	31	...	57	288	146	..	434	28	0	0
	Total ...	5,463	227	27	5,663	197,962	35,710	189	233,483	11,056	0	0

130. That the cultural operations in the Northern Circle, if what has mostly consisted of broad-cast sowings of seeds can be so termed, have proved

to be abundantly successful there is no room to doubt, for it is a topic of frequent and general remark that the appearance of the hill-sides in the Deccan have changed greatly since they have been brought under treatment for reboisement, for young trees are seen to be growing where there was formerly bare rock. The Bishop of Bombay in conversation with the Conservator mentioned incidentally that in the course of his tours in the districts he had noticed often the transformation that is taking place upon the hills. Dr. Brandis, a former Inspector General of Forests to the Government of India, has recorded the satisfactory and surprisingly rapid progress made, within his recollection, in re-clothing hills in the Poona District with timber. In the Sholápur District, in the extreme east of the Deccan, where the great famine was very severe, the Collector of Sholápur has reported in a letter No. $\frac{D}{474}$, dated $\frac{10}{11}$th March 1890, to the Commissioner, after having visited forest lands in most of the ranges of that division, that there is every reason to believe that forest conservancy has been attended with excellent results. In successive Administration Reports of the Circle, mention has been made of the progress effected in reboisement. Plantations proper cost a great deal of money, and cannot be resorted to except in a small way for exceptional areas and experimental works. Where enormous forest tracts covering thousands of square miles are under management, the expenditure upon a minute system of plantations in any thing like an extended scale would, not only swallow up all receipts, but be far greater than the Imperial revenues could afford; and inexpensive broad-cast sowings, with adequate protection, show far better results, than the more detailed and very expensive cultural operations.

131. The Divisional Forest Officer, West Khándesh, records :—

"Natural reproduction is visible in all our closed forests, and in those of the heavily wooded tracts where the soil is as yet in a good condition for the seed to fall on from the surrounding seed-givers."

132. The Divisional Forest Officer, East Khándesh, reports :—

"The obstacles to natural reproduction by seed in all the reserves in the plains during the year were fires, grazing, and two successive unfavourable seasons owing to the late rains having held off. There is no doubt that during the rains most of the areas are fairly stocked with seedlings which hardly ever survive the hot weather. The principal drawback in the Sátpudás is however fire, and it is most surprising to see the vitality of the roots of some species after the seedlings have been burnt to the ground year after year. Of course a good many succumb to this treatment, and some make a stand and establish themselves, if by any chance they are left alone by fire for one season. Natural reproduction from shoots is, as a rule, very good indeed, as it is not damaged by fire to the extent that seedlings are."

133. The Divisional Forest Officer, Sholápur, states :—

"Natural reproduction in this division is progressing steadily, and the results are very encouraging, lands that used to be absolutely bare are getting covered with grass, and where grass was very poor and innutritious its quality has improved wonderfully. Seedlings have developed into trees thereby making a good show, and self-sown seedlings are to be found almost everywhere."

134. The Divisional Forest Officer, Ahmednagar, records :—

"The rainfall during the year (25·17 inches) though up to the average and some 7 inches in excess of the fall of the preceding year, was very late and unequally distributed: most of the rain falling during the month of September, June, July and August being almost without any rain. These circumstances are undoubtedly adverse to the progress of natural reproduction; for, while during June, July and August many of the seeds lying in the ground must have been scorched up and deprived of much of their vitality, a large number of seeds must also have been washed out of the ground and carried away by the torrents of water that flowed off the hills during the heavy downpours of rain during September. The progress of natural regeneration, however, was by no means at a standstill, for during his inspection of the hills in Jámkhed, Karjat, Shrigonda, Párner and Ráhúri, the undersigned saw many seedlings of khair growing behind rocks and stones and under cover of bushes where the seeds found protection from the action of the water. The undersigned also noted with much interest throughout the forests of this division the growth of the nimb. Seedlings of this valuable tree are to be seen everywhere forcing their way through bushes of amoni, hekal, tarwad, korind, and even prickly pear, in which they have germinated from seeds deposited by birds. The attention of the Range Forest Officers and their subordinates has been specially drawn to this interesting circumstance, and they have been strictly enjoined to follow the example of the birds and sow seeds of nimb and other useful trees in bushes and under the lee of rocks and stones where they will get shelter from the sun and weather and protection from cattle."

135. The Divisional Forest Officer, South Thána, reports :—

"Every year a great crop of seedlings appear in the forests during and after the rains, but unless fire is kept out of the forest few of them survive. A great number also are killed by the grazing of cattle or survive to grow up stunted; but this evil, great though it be, is not so great as that of fire. Fires are a menace to the very existence of teak and the better kinds of timber trees, and the matter must be faced firmly if the present system of working of the forest is to be attended with any success and not to lead to disaster. At present the hands of the Forest Department are sadly tied owing to the unwillingness of the Revenue Department to make use of even the small amount of punitive means, placed at their disposal by Government Resolution No. 1942 of 24th March 1888. Under the present system of working a good crop of coppice shoots quickly succeeds to the cutting, reinforced by seedlings naturally sown. The coppice shoots appear immediately if the cutting is made between August and December, and attain fair dimensions by the hot weather. If the cutting is not made till later, they make little progress till the succeeding rains, and their growth is much checked, even when not entirely stopped, should by any accident fires occur in the compartment. The regulations are very strict in this matter, the contractors being compelled to fire trace their coupes, and in addition be liable to fines, if in spite of this, fires should occur. By this means fires can generally be kept out of the coupe of the year, but it is more difficult to protect the coupes of preceding years. After the coppice shoots and seedlings are two or three years old, they generally survive a fire which may traverse the coupe, but their growth is much checked, and they grow up bayonetted instead of with stems straight from the ground as they should. In some parts of the district the coppice is extraordinarily vigorous, notably in the Hálivli and Kiroli forests near Karjat, where coppice shoots of three and four years old have attained heights of 25 and 30 feet and diameters of 4 inches. In the forest of Bhawsa, which now forms part of the Tánsa Lake catchment area, and where grazing has never been carried on to any extent, seedlings of teak and blackwood were observed in plenty, and the same may be said of other parts of the district where the same conditions prevail. In fact, natural reproduction in the Thána District may be said to be perfect if only nature be allowed her own way."

136. The Divisional Forest Officer, Surat, has remarked :—

"The rainfall of the year being good and fairly seasonable natural reproduction was satisfactory, though retarded by fire. In the Mándvi Range teak cuttings of previous years are fast regenerating by the development of well-grown coppice shoots. The stools of trees cut round the town of Mándvi have in most instances thrown out vigorous straight coppice shoots. In the warm moist villages of the Dángs reproduction, both by self-sown seeds and shoots from stools, is remarkably rapid; trees of teak and other species developing clean, straight poles of great length; but here also fire plays immense havoc by scorching seedlings, burning trunks of sound trees, and otherwise damaging all other growth."

137. Mr. Wilkins, Deputy Conservator of Forests, has reported that when he visited in the month of July 1889, the closed portions of the reserved forests on the Persick hills in the Sálsette Range of the North Thána Division, he found thousands of seedlings of teak, ain, khair, &c., the result of last year's and the previous years' broad-casting, which were thriving well and had established themselves.

138. There is not the least doubt that all sowings of seeds, whether in open or closed forests, are of decided benefit; of course the results are and must be infinitely better where there is adequate protection against man, beast and fire. But seeds sown in open forests subjected to over-grazing germinate, and although an infinitesimally small percentage of the seedlings escape destruction by fire, and by the mouths and hoofs of cattle to grow into trees, still some do avoid, by great luck, an early death and become big trees. The portion of a seedling above the ground dies down generally, or is burnt down where fires occur, for a few years successively, reappearing in the rains, for the roots retain life, while the root stock goes on thickening, until eventually it sends up a vigorous shoot, which survives till the succeeding rains, and then the young tree soon becomes defensible.

9.—EARLY THINNING, REMOVAL OF INFERIOR SPECIES, CUTTING OF CREEPERS, &c.

139. The eradication of prickly pear (*Opuntia dillenii*) from within the boundaries of reserved forests in all the divisions of the Northern Circle, has been performed by Forest Guards where the growth is of recent origin, and by hired labour where it was old and covers much ground in dense growth. In the divisions of Násik, Ahmednagar, Poona and Sátára Rs. 124, 251, 477 and 6, respectively, have been spent on this account. Forest Guards are provided with bill-hooks for cutting creepers in the forests of their own beats.

10.—EXPERIMENTS WITH EXOTIC TREES.

140. The Carob (*Ceratonia siliqua*), "Rain tree" (*Pithecolobium saman*), several varieties of Eucalyptus, the Mahogany, the Divi divi and other foreign trees which have been experimentally reared in past years in the Dongargan reserved forest of the Nagar Range in the Ahmednagar Division are growing well. The Mahogany seedlings in the Násik Division are doing remarkably well. The small Casuarina plantations along the sea shore on sand hills in the Máhím Range of the North Thána Division are making a good show. The Divi divi trees planted some years ago in the Padmála forest of the Erandol Range of the East Khándesh Division are in very good and vigorous condition, as are also the *Inga dulsis* seedlings in the Pádli and Tándulvádi plantations of the Sátára Division.

141. The results of the experimental sowing of date palm, referred to in paragraph 135 of last year's report, have been variable, very few of the seedlings transplanted from the garden of the Divisional Forest Officer's house at Násik to the Páthardi reserved forest have done well. Out of 689 seedlings in the Sátára Division, some died during last cold weather, while the others have made very slow growth during the year. In the Sholápur Division 250 plants in different reserved forests are in good condition, but those in the Bársi and Sholápur Ranges have not done at all well. In the Panch Maháls Division the plants referred to in paragraph 135 of last year's report are in a fairly healthy condition, the most flourishing being a little over 12 inches in height.

11.—COMMUNICATIONS AND BUILDINGS.

(*a*).—Roads and Bridges.

142. The amount spent upon the construction and repairs of roads at the cost of the Forest Budget was only Rs. 788, made up of Rs. 70 in the Sátára Division, on repairs to the road from Kola in Karád to Dhamni and Ambaoda in Pátan, which serves the teak forests in the Vang valley, and Rs. 718 in the Surat Division on ordinary repairs to the Dáng forest road. In no other divisions of the Northern Circle was expenditure incurred under this head, from the Forest Budget by Forest officers, who have no time, even if they possessed the technical knowledge, to devote to road-making.

143. The Public Works Department have done much road-making during the year at the expense of the Provincial Services budget, which will be of the highest utility in the transport and removal of timber and other forest produce. A brief sketch of these works is as under.

The most, if not all, these projects have been undertaken at the instance, advice, or with the supporting opinions, of the Forest Department:—

I.—Thána District.

(*a*) *Dáhánu-Jowhár road.*—Rs. 16,759 were expended upon it during the year, making Rs. 1,79,747 up to date; at times more than one thousand carts used the road daily.

(*b*) *Váda-Shirghát road,* which is to be 31 miles in length.—Rs. 41,532 has been spent upon it during the year, making a total expenditure of Rs. 83,951 out of the sanctioned estimate Rs. 1,44,645. This road will open out the valuable East Váda and Mokháda forests to the country above the Western Ghats in the Igatpuri Range of the Násik District; and from Váda another section of this road leading past Manor bandar, the great timber-export bandar of this part of the Thána District, goes to Máhím on the sea-coast, a distance of 33 miles from Váda, Rs. 11,201 has been spent on this section during the year.

(*c*) *Bhiwndi to Váda road.*—Rs. 4,413 were expended during the year, making the total cost Rs. 1,39,020 up to date, against an estimate of Rs. 14,61,005. This road serves the forests of East Bhiwndi and West Váda about Khoj Fort, &c. Some other short roads have been under construction in the Sálsette and Kalyán Ranges; and surveys have been made of roads over Nánewli and Maidwan Khinds which will improve forest communications.

II.—Khándesh Collectorate.

Road from Ranálá to Nandurbár was completed; and a road from Dondiácha to the Tápti river and thence to Sháháda under construction; this road will be used for the transport of timber from the Akráni and Sháháda forests towards the central markets of Khándesh.

III.—Ahmednagar District.

Two roads have been making in the Akola Rrange which may be of much service to this Department:—

(*a*) From the Kolhár-Bári road near the village of Randha through the villages of Guhera, Bhandardara, Sámrad, a distance of 9 miles.

(*b*) *Jamgaon to Kotul road*, which forms part of the scheme for opening up the wild hill forest-clad country in the west connecting the two important market towns of Rajur and Kotul.

IV.—Poona District.

The Ghoda and Ámbegaon road in the Khed Táluka has been continued; several teak forests will be tapped by it.

V.—Sátára District.

A new road from Pusegaon to Vádúz, 12 miles in length, has been commenced at an estimated cost of Rs. 30,851, upon which Rs. 10,890 have been spent.

(*b*).—BUILDINGS.

144. Government in their Resolution No. 216 A—969, dated 30th May 1889, in the Public Works Department, were pleased to empower the Conservator of Forests to deal with proposals for new departmental works and for additions and alterations to existing works, provided the expenditure did not exceed Rs. 500 in each case, and they placed at his disposal from the Provincial Services budget the sum of Rs. 3,000 for the purpose. The following statement will show in detail the works sanctioned during the year from the discretionary grant of Rs. 3,000, under the orders quoted above :—

No.	Executive Officer.	Name and locality of Works.	Amount sanctioned.
			Rs.
1	Executive Engineer, Ahmednagar.	For providing a paving in the Range Forest office and seed-room in the Mámlatdár's kacheri at Karjat	109
2	Do. Kaira ...	For providing a seed-room for the Forest Department in the compound of the Máhalkari's kacheri at Hálol	203
3	Do. Sátára ...	For paving a concrete and Portland cement flooring in the Forest Ranger's office at Islámpur in the Sátára Division	30
4	Do. Khándesh ...	For providing paved floor in the Range Forest office at Chálisgaon	83
5	Do. do. ..	For providing a window in the Forest office in the Mámlatdár's kacheri at Chopda ...	74
6	Do. Sátára ...	For enlarging the office for Forester at Koregaon in the Sátára Division...	36
7	Do. Násik ...	For providing an additional store-room to the office of the Range Forest Officer at Chándor	462
		For providing a teakwood record-shelf in the office of the Range Forest Officer at Chándor	25
8	Do. Thána ...	For providing teak plank ceiling to the Range Forest office at Kelwa Máhím	111
9	Do. do. ...	For providing plank ceiling to the Range Forest office at Bhiwndi in the Thána District	60
		Total ...	1,193.

145. In addition to the above, the Public Works Department had undertaken the construction of six hirda depôts in the Akola Táluka of the Ahmednagar Division. Two depôts, *viz.*, at Shinganvádi and Ghátghar, were completed before the close of the year, while the remaining four were still under construction. Office accommodations for Range Forest officers was likewise built by the Public Works Department, at the instance of the Conservator, within the premises of kacheries of Bhusával, Bhadgaon and Navápur in the Khándesh District. Seed-rooms in the offices at Karjat and Shrigonda in the Ahmednagar District were paved. An office and store-room was built for the Range Forest Officer of Málsiras in the Sholápur District; and a seed-room for the Range Forest Officer, Hálol, in the Panch Maháls Division.

146. The expenditure incurred by the Divisional Forest officers in the Northern Circle, in building Forest Guards' huts, tempoary depôt-houses, and upon ordinary repairs to existing rest-houses and forest posts, is given in the following statement:—

No.	Division.	Amount.		
		Rs.	a.	p.
1	North Thána	515	1	0
2	South Thána	352	13	6
3	East Khándesh	128	3	0
4	West Khándesh	943	0	8
5	Násik...	333	1	0
6	Poona...	120	0	9
7	Sátára	41	4	6
8	Surat	457	15	2
9	Panch Maháls	36	0	9
	Total ...	2,927	8	4

CHAPTER IV.

OUTTURN AND WORKING.

I.—DEPARTMENTAL OPERATIONS.

(1) Timber.

147. The following statement shows an approximate estimate of the outturn, in cubic feet of the timber exploited from the forests by Government Agency, with the cost incurred and the revenue realised by its sale, during the year 1889-90, as compared with the outturn, cost and receipts of the preceding year:—

No.	Division.	1888-89.					1889-90.				
		Timber in the rough; Logs.	Timber in the rough; Poles.	Miscellaneous.	Cost.	Receipts.	Timber in the rough; Logs.	Timber in the rough; Poles.	Miscellaneous.	Cost.	Receipts.
		C. ft.	C. ft.	C. ft.	Rs.	Rs.	C. ft.	C. ft.	C. ft.	Rs.	Rs.
1	North Thána	...	82,938	...	4,402	14,771	...	10,206	...	457	2,449
2	South Thána	...	18,100	7,398	2,344	7,665	...	41,868	...	6,558	5,522
3	East Khándesh	2,500	11,250	...	904	7,722	77	19,700	...	1,078	9,585
4	West Khándesh	18,375	21,921	...	3,251	20,240	...	50,489	1,983	2,844	33,366
5	Násik	578,077	...	...	1,665	29,356	78,988	...	...	472	4,140
6	Ahmednagar	...	296,221	...	1,437	7,336	...	1,14,882	308	1,442	6,967
7	Poona	59,946	41,971	...	2,934	27,699	97,547	34,738	...	3,191	25,596
8	Sátára	...	38,531	...	1,797	16,491	...	33,452	...	1,892	14,912
9	Sholápur	1,352	...	...	15	173	1,979	10	...	21	271
10	Surat	65,233	108,577	2,088	3,552	41,889	81,066	2,20,146	849	11,535	31,522
11	Panch Maháls	20,249	...	3,940	426	1,039	5,348	504	1,949	263	441
	Total ...	745,732	619,509	13,426	22,727	1,74,381	265,005	525,995	5,089	29,753	1,34,771

148. The great decrease appearing in the North Thána Division is due to the abolition of departmental operations in favour of sales of standing timber to contractors and purchasers to fell and remove. It was not found to be necessary to open departmental retail shops for the sale of timber, &c., to villagers, as recommended by the Forest Commission, for not only do the people resort to the coupes for their requirements in timber and firewood, as freely as to a fixed bazaar, but contractors also send cart-loads of timber in various intermediate directions on speculative sale, and thus the local wants are fully and more readily supplied.

149. In the South Thána Division, departmental operations were restricted to the coupes which had remained unsold at the auctions of the season, with the view of serving the interests of the agricultural classes in the division; the timber was exploited departmentally, but the people did not show appreciation of this conciliatory proceeding, and no sale at all could be effected in no less than 9 out of 16 coupes, and consequently the receipts are less than the expenditure; the value of the material remaining on hand being Rs. 8,200. The reason is not far to seek: in dealing direct with Government the villagers have to pay cash, whereas in buying from contractors and dealers they deal on credit and also by barter or exchange, and their wants can be supplied in better detail.

150. In the two Khándesh Divisions the year has been, on the whole, a good one for sales of timber cut departmentally, owing to the import of foreign timber having been abnormally small before the departmental sales. In the Násik Division, the decrease in outturn is due to a reduced volume of fellings of teak in Málki numbers. In the divisions of Ahmednagar, Poona and Sátára the departmental operations were undertaken as usual, but the demand was not very brisk. In the Surat Division much of the material remained on hand at the close of the year, and hence the decrease in receipts. In the Panch Mahál Division, almost all the material cut departmentally was handed over to the sufferers by the Godhra fire, as per Government Resolution No. 2952, dated 17th April 1889, and hence very little remained for the market.

(2).—Firewood.

151. The departmental operations of firewood, which include the loppings of teak and other kinds undertaken during the year in the several divisions of the Northern Circle, as compared with the results of last year, are exhibited in the statement below, with the outturn in cubic feet, the expenditure incurred, and the revenue derived:—

No.	Division.	1888-89.			1889-90.		
		Firewood. Cubic feet.	Cost.	Receipts.	Firewood. Cubic feet.	Cost.	Receipts.
			Rs.	Rs.		Rs.	Rs.
1	North Thána	101,325	1,390	9,183	3,225	29	402
2	South Thána	52,967	845	2,546	51,375	95	1,762
3	East Khándesh ...	428,625	2,739	10,101	443,340	2,713	12,249
4	West Khándesh ...	134,937	1,729	2,600	245,171	1,223	7,246
5	Násik	196,703	1,073	2,918	183,060	976	3,871
6	Ahmednagar	74,340	204	1,294	168,150	281	1,216
7	Poona	233,162	2,430	10,940	268,272	2,576	11,094
8	Sátára	174,405	1,900	4,001	123,275	1,401	2,265
9	Sholápur	16,718	144	1,134	24,184	166	1,767
10	Surat	57,341	...	302	3,111	...	166
11	Panch Mahál... ...	34,890	659	739	49,711	187	2,892
	Total ...	1,505,413	13,113	45,758	1,562,874	9,647	44,930

152. The decrease in the two Thána Divisions is due to the same causes as have been given under timber operations. In the East Khándesh Division the operations were very encouraging, as there was a great demand for firewood

owing to the increase in the number of ginning factories in that part of the country. In the West Khándesh Division all the fuel remaining on hand from last year, 23,045 cubic feet, was sold during the year, in addition to the sales of the season's outturn; hence the increase in the revenue realised. The increase in Násik was caused by the sale of the balance of firewood from the preceding year. The fuel operations in the Ahmednagar and Poona Divisions were carried on, on the same lines as heretofore, and the demand was fair. In the Sátára Division 44,410 cubic feet remained unsold at the close of the year, and hence the decrease in receipts. No regular expenditure was incurred in the Surat Division on fuel operations, but the loppings of timber trees felled departmentally were sold as firewood. In the Panch Maháls Division 1,51,296 cubic feet from last year were sold during the year.

(3).—Bámbus.

153. No departmental cutting of bámbus was undertaken during the year in any divisions of the Northern Circle, except Sátára. 600 bámbus were thinned out in the forests round Lingmalá, but being mostly crooked and badly grown, did not sell well.

(4).—Other Minor Produce.

154. The only important departmental operation undertaken under this sub-head was the collection of hirda in the divisions of the Northern Circle, where the hirda tree abounds, and the following statement will show the results of the year as compared with those of the past year:—

No.	Division.	Yield.		Cost.		Receipts.	
		1888-89.	1889-90.	1888-89.	1889-90.	1888-89.	1889-90.
		K. m. s.	K. m. s.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
1	North Thána ...	108 26 13	68 23 4	679 14 10	495 14 6	1,727 6 6	1,342 3 6
2	South Thána ...	265 3 0	83 23 5	1,823 4 0	610 2 8	4,406 15 10	1,656 9 0
3	Násik	51 3 9	47 12 7	56 5 8	30 12 5	.....	.....
4	Ahmednagar ...	340 4 12	132 17 10	2,258 9 3	787 6 0	3,743 2 10	4,926 0 5
5	Poona	271 25 3	138 18 8	1,348 8 3	524 4 6	3,537 14 10	3,197 7 8
6	Sátára	856 23 10	409 9 4	5,745 2 9	2,820 9 3	13,477 10 1	10,140 8 7
	Total ...	1,894 3 5	880 20 10	11,911 12 9	5,269 1 4	26,893 2 1	21,262 13 2

155. It will be seen that the outturn of hirdas has decreased very considerably, owing to the failure of the crop generally, during the year. However the poor crop was somewhat compensated for by better prices at auction sales. In the two Thána Divisions the crop of 1888-89 was exceptionally good, and therefore the results were infinitely superior to those of the year under report, in which the yield was far below the average. The rate per khandi at auction sales was Rs. 19 against Rs. 16 in the preceding year. In the Násik Division hirda was collected on the share system, as in the year before, and therefore the expenditure charged represents only the cost of watching the collected hirda, the sale-proceeds appearing under the sub-head *IIe*. The hirda remaining on hand at the close of the last year was sold at Rs. 31 per khandi. In the Ahmednagar Division the rate per khándi at which the hirda was sold was Rs. 26 against Rs. 11 in the preceding year. The sale-proceeds include Rs. 1,743 for the hirda collected and sold last year, but the proceeds of which were not credited during that year. The expenditure shown against the Poona Division was incurred in the Mulshi Range only, while the hirda in other ranges was sold by auction on the share system. In the Sátára Division there was great falling off in the collection of hirdas owing to a very bad crop, but the price realised, Rs. 60 per deshi khandi, *i. e.*, Rs. 24 per Bombay khandi of 784 lbs., was the highest ever realised in that division, and hence with a diminished yield the receipts compare favourably with those of the past year when an overabundant crop was harvested.

156. Shikákái (the pod of *Acacia concinna*) also gave like hirdas a deficient crop, and therefore the revenue is comparatively small.

157. In the Sholápur Division the bábul bark of the trees felled departmentally sold by auction for Rs. 37.

II.—REMOVAL OF PRODUCE BY PURCHASERS.

(1).—Timber.

158. The statement given below shows the outturn, in cubic feet, of timber removed from the forests of the several divisions of the Northern Circle by purchasers and consumers, at their own expense, and the amount realised, as compared with the results of the previous year :—

No.	Division.	1888-89.				1889-90.			
		Timber in the rough ; Logs.	Timber in the rough ; Poles.	Miscellaneous.	Amount realised.	Timber in the rough ; Logs.	Timber in the rough ; Poles.	Miscellaneous.	Amount realised.
					Rs.				Rs.
1	North Thána ...	...	844,464	...	1,53,392	...	872,187	...	2,17,319
2	South Thána ...	...	178,053	...	1,67,316	...	1,379,235	...	1,67,518
3	East Khándesh	...	...	155,305	3,771	...	...	199,280	4,784
4	West Khándesh	...	...	718,366	14,395	...	...	509,584	11,040
5	Násik	58,654	...	...	9,193	244,204	...	...	13,439
6	Ahmednagar ...	...	...	9,628	217	...	...	6,740	189
7	Poona	...	380	...	130	...	39,902	...	797
8	Sátára	7,196	309	3,067	4,052	7,479	1,204	...	2,679
9	Sholápur ...	...	...	324	290	...	...	154	60
10	Surat	41,323	...	40,322	35,745	33,892	...	27,519	24,343
11	Panch Mahals...	160,686	...	...	33,927	248,906	50,754	90,094	47,848
	Total...	267,859	10,23,206	927,012	422,428	534,481	2,343,282	833,371	4,90,016

159. The system of selling timber standing in the compartments, laid out on the ground by the Working Plans Division, in the two Thána Divisions is found to work admirably, almost all the compartments offered for sale fetched excellent prices. The plan of small coupes in considerable numbers spread over the whole forest region, commends itself also from a trade point of view, for dealers of small means, village Pátels and Sávkárs, who are not possessors of great wealth, can afford to speculate to the extent of Rs. 3,000 to 5,000, and they purchase one or two coupes, and thus the better-to-do classes of the local population are becoming interested in forest conservancy and working, are competing for the power of providing for local supply; and with a multiplicity of purchasers combination against the departmental sales is less possible, while on the other hand, the villagers advantage by having more wood shops to go to for their wants, for they fare thereby much better than they would if they were at the mercy of a few big timber merchants. In the South Thána Division sales of coupes to meet the requirements of the Tánsa Dam and Duct Line contractors, Messrs. Glover and Company and Messrs. Walsh, Lovett, Mitchell and Company, were effected, and these firms worked smoothly and in perfect harmony with the Forest Department throughout the year. The realizations of auction sales of coupes to them were Rs. 8,697 and Rs. 23,562 respectively. In all other divisions of the Northern Circle, the coupe system will be introduced gradually, *pari passu*, with working plans of the forests. The augmented revenue in the East Khándesh Division is due to increased sales on the permit system. On the contrary, there has been a falling off in the receipts of the West Khándesh Division, as the Bhils have not come forward so readily to purchase. In the divisions of Násik, Ahmednagar, Poona, Sátára and Sholápur no extensive sales are made of standing timber. In the Surat Division the sales of the Dáng timber were held very late, and there was a combination among the small number of purchasers who attended the sales, consequently very low prices were offered and inconsiderable sales were effected. In the Panch Maháls Division prices ruled high at auction sales of standing teak sold upon occupied lands.

(2).—Firewood.

160. The following statement exhibits the quantity of firewood, in cubic feet, removed from the forests of the Northern Circle by purchasers, either by contract, or on permits issued for their removal in cart-loads, &c., on payment of fees at their own cost, with revenue realised, as compared with the results of the past year :—

No.	Division.	Firewood in Cubic feet.		Receipts.	
		1888-89.	1889-90.	1888-89.	1889-90.
				Rs.	Rs.
1	North Thána	951,162	1,468,966	8,636	7,855
2	South Thána	568,100	905,787	1,198	1,354
3	East Khándesh	1,264,275	1,165,930	7,221	8,400
4	West Khándesh	1,439,669	456,950	3,880	3,119
5	Násik	43,120	62,697	1,490	1,474
6	Ahmednagar	6,844	13,335	641	743
7	Poona	29,380	910	1,673	2,415
8	Sátára	14,663	12,185	414	395
9	Sholápur	1,949	1,280	52	127
10	Surat	29,223	17,087	1,524	296
11	Panch Mahals	224,574	117,304	932	919
	Total ...	4,572,959	4,222,431	27,661	27,127

161. The receipts from this source for the whole Circle compare favourably with those of the preceding year.

(3).—Bámbus.

162. Bámbus were removed by purchasers and consumers from the forests of all the divisions of the Northern Circle, except Sholápur, where there are no bámbus at all, either by contract or on permits issued, on payment of fees for their removal in cart-loads, head-loads, &c., and the following table exhibits a comparison of the results of the year under report and the preceding one :—

No.	Division.	1888-89.				1889-90.			
		Bámbus removed.			Amount realised.	Bámbus removed.			Amount realised.
		Cart-loads.	Head-loads.	Number.		Cart-loads.	Head-loads.	Number.	
					Rs.				Rs.
1	North Thána	5,306	...	319,059	11,893	7,816	...	196,717	7,294
2	South Thána	221	2,631	155,746	3,543	338	3,295	187,757	4,196
3	East Khándesh	...	1,040	256,800	3,719	...	...	255,175	3.638
4	West Khándesh	...	...	256,772	2,563	15	...	235,908	2,882
5	Násik	91	831	178,407	4,004	65	849	145,592	3,838
6	Ahmednagar	...	...	33,441	342	...	...	26,195	263
7	Poona	...	...	169,849	1,753	...	...	136,821	940
8	Sátára	...	362	11,117	282	...	500	2,826	241
9	Surat	17	1,088	538,002	12,237	...	2,421	446,807	8,901
10	Panch Mahals	...	...	162,123	2,026	...	...	54,183	703
	Total ...	5,635	5,952	2,081,316	42,362	8,234	7,065	1,687,981	32,896

163. The decrease and increase in outturn and receipts depend upon the demand for the article, and the diminished revenue for the circle is owing to slack demands in the divisions of North Thána, Poona, Surat and Panch Mahals.

(4).—Other Minor Produce.

164. The following statement exhibits the realizations from minor produce, such as apta and tembhurni leaves, tarwad and shembi bark, honey, wax, fruits, stones, earth, karvi, &c., removed from the forests of the several divisions of the Northern Circle, by consumers and purchasers, as compared with the results of the last year :—

No.	Division.	Amount, 1888-89.	Amount, 1889-90.	Remarks.
		Rs.	Rs.	
1	North Thána	4,101	4,953	
2	South Thána	2,375	3,137	
3	East Khándesh	542	901	
4	West Khándesh	9,300	* 12,459	* Includes Rs. 10,502 for Rosha grass stills.
5	Násik	1,399	† 4,525	† Includes Rs. 2,029 for Hirdas.
6	Ahmednagar	1,418	1,170	
7	Poona	2,913	1,994	
8	Sátára	4,044	3,063	
9	Sholápur	530	321	
10	Surat	6,337	1,038	
11	Panch Mahals	2,193	159	
	Total ...	35,152	33,720	

165. In the two Thána Divisions the increase is due to better prices obtained for the apta and tembhurni, palas and palm leaves. There was a large demand for stones and for Rosha oil manufacture in the East and West Khándesh Divisions. In the Násik Division hirdás collected on share system fetched excellent prices. In all other divisions of the Northern Circle, except Panch Mahals, the demand for minor products during the year was not so great as in the year before. In the Panch Mahals Division no revenue, which had been estimated at about Rs. 2,000, was derived from mhowra flowers, as under Government Resolution No. 2439, dated 28th March 1889, in the Revenue Department, the villagers in the Godhra, Kálol and Hálol Ranges were allowed to take mhowra free of charge.

III.—FREE GRANTS OF FOREST PRODUCE.

166. The following is a comparative statement of free grants of timber, which have been made from forest reservations during the past three years, in the several divisions of the Northern Circle:—

No.	Division.	1887-88.	1888-89.	1889-90.
1	North Thána	44	340	73
2	South Thána	1,464	1,166	168
3	East Khándesh	16	.....	.....
4	West Khándesh	651	159	45
5	Násik...	521	368	267
6	Ahmednagar	34	4	297
7	Poona	95	817	539
8	Sátára	190	85	354
9	Sholápur	.....	.....	.....
10	Surat...	36	194	.....
11	Panch Mahals	998	307	193
	Total ...	4,049	3,440	1,936

IV.—PRODUCE REMOVED BY RIGHTHOLDERS AND UNDER PRIVILEGES.

167. No rights, save of way and water access, have been found by the Forest Settlement Officers to exist in respect of any of the forests of the Northern Circle, which have come under their judicial investigations and proceedings, and consequently rightholders have no *locus standi* in the forests. The value of the forest produce removed under privileges is very considerable, indeed, particularly in those forests where a few kinds of trees are reserved and

the remaining trees are given to the people to cut and take, as the exercise of privileges is not restricted to fixed times, is not limited in most cases to defined quantity, is not subjected to control such as would result from the introduction of a permit system, it is not possible to arrive at any correct knowledge of the value of the exploitations of timber, firewood, bámbus, ráb material, grass, fruits, flowers, &c., &c., &c., brought out of the forests free of charge by forest villagers, wild tribes and others, for domestic use, or for barter, or sale. The free pasturage enjoyed by cattle of forest villagers inside reserved forests, alone, represents a considerable income. As the entry of hypothetical figures in an administration report is objectionable, it would not be correct to enter an estimate, which might require six or seven figures to represent it, and it is needless to say that privileges, unregulated by conditions which forestry demands, are a direct consuming attack upon the capital value of the forests, and that the value of the damages done to the productive powers of the forests, added to the unrealised value of the produce removed or enjoyed free of charge, if worked out, would give a startling result.

V.—IMPORTS AND EXPORTS OF FOREST PRODUCE.

168. The following statement shows the imports and exports in the North Thána Division, as compared with the results of the past year :—

Range.	Imports.				Exports.					
	1888-89.		1889-90.		1888-89.			1889-90.		
	Timber Poles.	Firewood.	Timber Poles.	Firewood.	Timber Poles.	Firewood.	Bámbus.	Timber Poles.	Firewood.	Bámbus.
	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	No.	C. ft.	C. ft.	No.
Sálsette	8,220	31,807	...	...	3,111	5,675	...	...	8,925	...
Bassein	...	...	...	...	...	253,975	6,326	57,574	339,463	...
Máhím	...	...	...	...	210,102	436,612	66,777	156,981	425,063	...
Dáhánu	...	...	...	...	330,843	155,762	169,019	702,915	359,737	407,559
Umbargaon	...	5,375	...	9,437	34,131	95,139	...	...	9,225	...
Váda	...	...	...	...	129,822	22,437	...	36,207	45,412	...
Total ...	8,220	37,182	...	9,437	708,009	969,600	242,122	953,677	1,187,825	407,559

169. The import trade of timber and other produce in the eastern portion of Khándesh was not great during a part of the year, owing to the forests in foreign territory bordering upon the frontiers of the division having been closed against teak and tiwas exploitation, and consequently the amount of duty collected upon foreign timber is only Rs. 12,386 as against Rs. 13,551 of the preceding year.

170. In the western portion of Khándesh, although the import trade is large, still it declined considerably owing to prohibitions enforced upon the removal of certain species of timber, and to enhanced fees levied upon other kinds in the adjoining forests of the Barwani, Mowás, Gaikwari and Indore states, and therefore, the duty collected amounted to Rs. 15,051 only, while Rs. 18,307 were realised the year before.

CHAPTER V.

FINANCIAL RESULTS.

171. Last year's financial results were the highest on record, but those of this year have considerably surpassed these figures also, and have thus more than maintained the financial prosperity of the Circle, as will be seen from the following comparative statement :—

Years.	Receipts.	Expenditure.			Net Revenue.
		A. Conservancy and Works.	B. Establishments.	Total.	
	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
1888-89	11,60,768 8 5	2,41,836 7 4	4,85,575 12 5	7,27,412 3 9	4,33,356 4 8
1889-90	11,85,540 5 4	2,18,518 11 3	4,86,838 7 10	7,05,357 3 1	4,80,183 2 3
Increase ...	24,771 12 11	.....	1,262 11 5	.....	46,826 13 7
Decrease ...	.....	23,317 12 1	.....	22,055 0 8	.....

172. The distribution of receipts among the several divisions of the Northern Circle, as compared with those of the past year, is given in the following statement :—

No.	Division.	1888-89.	1889-90.	Increase.	Decrease.
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
1	Direction	103 15 11	19 3 0	.....	84 12 11
2	North Thána	2,25,878 13 9	2,67,025 4 10	41,146 7 1	.....
3	South Thána	2,04,454 15 3	1,99,819 12 7	.....	4,635 2 8
4	East Khándesh	93,628 12 0	97,968 13 7	4,340 1 7	.....
5	West Khandesh	1,28,172 6 7	1,66,853 8 0	38,681 1 5	.....
6	Násik	93,379 15 2	89,107 11 9	.....	4,272 3 5
7	Ahmednagar	55,145 15 10	42,358 14 11	.....	12,787 0 11
8	Poona	1,01,909 4 2	97,961 7 1	.....	3,947 13 1
9	Sátára	85,356 2 5	75,858 5 4	.....	9,497 13 1
10	Sholápur	24,646 15 2	19,345 14 3	.....	5,301 0 11
11	Surat	99,807 12 3	68,094 1 11	.....	31,713 10 4
12	Panch Mahals	48,283 7 11	61,127 4 1	12,843 12 2	.....
13	Working Plans	.....	.....	.....	.....
	Total ..	11,60,768 8 5	11,85,540 5 4	97,011 6 3	72,239 9 4

173. It will be seen that the increase in revenue in the divisions of North Thána, East and West Khándesh and Panch Mahals, has more than counterbalanced the decline in other divisions, leaving a net increase of Rs. 24,771-12-11 over the actuals of last year. In the North Thána Division the coupe system of sale of standing timber, to be felled and removed by purchasers, at their own cost, is being better understood, the competition for buying coupes is becoming keener, and consequently the coupes sold during the year realised advanced prices. The decline in South Thána is due to the departmentally felled material remaining on hand unsold at the close of the year, as the villagers do not apparently approve of a large public department entering into retail shopkeeping; and in this they show their wisdom. The increase in the two Khándesh Divisions is due to brisk sales of teak rafters and to higher prices offered for firewood and for contracts for the distillation of Rosha grass oil. The decrease in the Násik Division is due to the expected sales of teak trees in Málki numbers not having come off. In the Ahmednagar Division the diminished revenue is accounted for by the fact that, last year closed portions of reserves were thrown open to cattle on payment of fees in order to relieve the distress arising from the scarcity of fodder, and consequently the grazing receipts, which affected the total revenue, were abnormally high, while no closed reserves have been opened to grazing this year. In addition to this cause a larger forest area, the grass crop of which is valued at Rs. 1,500, was placed at the disposal of the Commissariat Department for the supply of cut hay and fodder grass. The revenue in the Poona Division is less than that of the last year by a small sum of Rs. 3,948, which is owing to the very much larger tracts of reserved forests having been made available to the Commissariat Department at Poona, for the supply of hay to Government cattle and horses belonging to the Military Department at Poona and Kirkee; an unusually indifferent crop of hirdás also contributed to the fall. In the Sátára Division the greater part of the decrease is attributable to the very bad hirda crop owing to hail and rain storms, which knocked the young fruits off the trees when ripening. Although the receipts in the Sholápur

Division are less than those of the preceding year, still compared with the Budget figures they are satisfactory. The opening of large tracts of closed forests to grazing, as an exceptional and temporary arrangement, augmented the revenue during 1888-89, while no such adventitious additions to revenue occurred during the year. The falling off in the gross receipts of the Surat Division is attributable to the large stock of teak timber from the Lower Dángs remaining unsold at the close of the year, through combinations on the part of dealers, measures for the defeat of which are being taken. The sales of stock on hand at the commencement of the year, together with the fact that high prices ruled the auction-sales of standing teak during the year, explain the increase to be perceived in the gross receipts of the Panch Mahál Division.

174. The following statement exhibits the distribution of expenditure under "A. Conservancy and Works" among the several divisions of the Northern Circle, as compared with that of the past year:—

No.	Division.	1888-89.	1889-90.	Increase.	Decrease.
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
1	Direction	1,000 8 3	720 12 3	.....	279 12 0
2	North Thána	18,839 4 4	21,032 3 5	2,192 15 1	.....
3	South Thána	44,241 4 0	41,110 13 10	.....	3,130 6 2
4	East Khándesh	16,293 0 3	9,003 3 6	.....	7,289 12 9
5	West Khándesh	17,082 5 2	18,498 14 6	1,416 9 4	.....
6	Násik	29,529 3 10	10,179 9 3	.....	19,349 10 7
7	Ahmednagar	11,808 1 0	12,456 11 10	648 10 10	.....
8	Poona	25,876 12 0	30,403 1 3	4,526 5 3	.....
9	Sátára	28,693 5 4	18,832 1 5	.....	9,861 3 11
10	Sholápur	4,522 1 2	7,845 5 1	3,323 3 11	.....
11	Surat	22,074 7 8	28,565 3 4	6,490 11 8	.....
12	Panch Mahál	3,770 8 7	2,710 13 7	.....	1,059 11 0
13	Working Plans	18,105 9 9	17,159 14 0	.....	945 11 9
	Total ...	2,41,836 7 4	2,18,518 11 3	18,598 8 1	41,916 4 2

175. The increase of expenditure in some of the divisions amounting to Rs. 18,598 is more than covered by decrease in others, the balanced account showing a net decrease of Rs. 23,317-12-1 upon the actuals of the preceding year. The increase in North Thána is mainly due to arrear payments on account of remuneration to village officers for collecting forest revenue since 1879. The decrease in South Thána is attributable to smaller amount expended on payment of compensation for lands, required for the protection of the Tánsa Lake catchment. No expenditure was incurred in the East Khándesh Division for acquiring occupied lands for forests in the year of the report, while large payments were made in the preceding year. The increase in the office establishment of the Forest Settlement Officer has augmented the expenditure in the West Khándesh Division. The large decrease in Násik is due to the reduction in forest survey charges. In the Ahmednagar Division the increase is inconsiderable, and was caused by the purchase of barbed wire for fencing purposes. The debit of Rs. 11,382 on account of forest survey has increased the expenditure of the Poona Division. The decrease of Rs. 9,862 in the Sátára Division is due, to some extent, to smaller expenditure in the purchase of hirda and shikákái, and to the full amounts provided for under VIII *b.* and *d.* not having been expended during the year. In the Sholápur Division the increase was caused by the purchase of material for wire fencing, and by more extended operations in erecting live fences and eradicating prickly pear. In the Surat Division the increase is principally due to departmental operations, both in the Dángs and Mándvi Range, having been undertaken on a larger scale, and to the cost incurred on floating timber from Khedpur to Fulpara upon the Tápti river. In the Panch Mahál Division less expenditure on departmental fellings of timber and firewood, and the reduction in the office establishment of the Forest Settlement Officer, are accountable for the decrease. The decrease in the Working Plans Division is inconsiderable, and is due to savings in the entertainment of temporary field establishment.

176. The figures of expenditure under B. Establishments during the year, which exhibit an increase of Rs. 1,262 only, over the results of last year, call for

no special remark, fluctuations in pay and allowances of officers are the causes of the differences which appear. But the excess is due entirely to a sum of Rs. 1,784 having been debited to the accounts of the Northern Circle, on account of payments made in Bombay to Forest officers of other provinces; although this charge has no connection whatever with the expenditure of the Northern Circle. The result has been to reduce the surplus revenue of the Northern Circle, otherwise the net revenue of the Northern Circle would be exhibited as Rs. 4,81,967 in place of Rs. 4,80,183.

CHAPTER VI.

GENERAL REMARKS.

177. Leaving the Akola Dángs in the Ahmednagar Division the Conservator walked down into the Junnar Taluka of the Poona Collectorate, through the Harischandragad forests, and his camp was at Khireshwar on the 1st April 1889, where Mr. R. C. Wroughton, the Divisional Forest Officer, Poona, joined him, and the Syhádri forests about the Málsej Ghát and the head-waters of the Mina were inspected. The forest boundary upon these hills is taken far up the slopes to the foot of the first scrap, and all below that limit is periodically shaved to provide ráb material, and also for a wretched inferior cultivation carried on *in situ* with the bill-hook and fire. The cultivation areas in the plains below at the head of the valley are of exceptionally good soil, and grow wheat almost to the verge of the Ghâts; and the afforestation of the lower belt of the steep hills draining on to them is all that is required to enhance the productiveness of the flat lands. While encamped at Nirgudi in the Mina valley, about 3 miles from Junnar, a word was received from the Forest Guards below the Ghâts in the Murbád Táluka of the Thana Collectorate, that Koli villagers of Bhiwri, Inglun and Ámboli, above the Ghâts, in the Junnar Sub-division, had descended the Amboli Ghát in a body and made a raid upon the Government forests below in the Murbád Range, and that they had rolled rocks and stones down upon the Murbád Forest Guards who had detected their proceedings, &c., and had attempted to catch them. The Conservator accordingly with the Divisional Forest Officer, Poona, and the Range Forest Officer, Junnar, visited the timber market at Junnar, the next morning, and apprehended 20 Kolis bringing freshly cut stolen timber, such as the private lands and Government forests above the Syhádris at the head of the Mina valley cannot produce, and could only have come from the reserved forests in the Konkan; these men were taken before the Magistrate, who took bail at once from them to the extent of Rs. 25 each, and the names of 34 other villagers, who were detected conveying similarly stolen timber, were recorded; and the Divisional Forest Officer of South Thána was instructed to take proceedings under the Forest Act against the offenders. And a report was made to the District Magistrate of Poona, Mr. East, who at once instructed the Police Department of his Collectorate to adopt preventive measures against similar raids in the future. The 20 Kolis, who had been arrested and bailed, were tried by the Subordinate Magistrate of Murbád, in the Thána Collectorate, some months afterwards, and were convicted and sentenced to a fine of Rs. 2 each. The District Magistrate of Thána informed the Conservator that in reviewing the 3rd class Magistrate's calendar he had stated that the sentences were too light and that the men should have been imprisoned. The Conservator then marched with Mr. Wroughton over several cross ranges of hill abutting from the Syhádris, through the Junnar, Ámbegaon, Khed and Mával Forest Ranges, when teak and other forests were daily inspected and coupes were visited. After the Easter vacation camp was rejoined at Lingmala in the Mahábaleshvar Range of the Sátára Division, to which it had moved in the meanwhile, when the forests all round were visited with local Forest officials: and with the Commissioner, C. D., and the Collector of Sátára, the Conservator made a detailed inspection of the forest and other lands immediately surrounding the station of Mahábaleshvar, the far-famed health resort of Western India. From this place the Conservator marched through a portion of the Wái and Koregaon tálukas of the Sátára District, to the Purandhar Range of the Poona District, inspecting the forests of these ranges, and

he walked over the forests upon the slopes of the Purandhar Fort hills, and visited the Collector at Purandhar. This place is the principal sanitarium of the great military station, Poona; it is perched up high on the top of the hill, and in the interests of this health resort, if for no other reason, it is highly important to maintain the sides of the mountain, which are very steep, efficiently protected by a dense growth of timber. From Purandhar the Conservator's camp proceeded to Poona for the rainy season, while he went to Mátherán to inspect the forests of that health resort, the second in estimation in Western India, and which is largely frequented by visitors from the city of Bombay. The Divisional Forest Officer with the local Forest officials met the Conservator in order to concert measures for the protection of the forests, and the punishment of a large body of Thákurs, who, despite frequent warnings, had deliberately cut down trees and cleared forest lands for dálhi cultivation upon the sides of Mátherán. The Collector, who was at Mátherán, was visited and the forest matters of the Collectorate were discussed, as also the treatment of the case against the Thákurs of the villages surrounding Mátherán. These men were eventually prosecuted, convicted and sentenced to punishments of imprisonment for varying periods of time and to fines. This sharp, but by no means unduly severe, disposal has had a very wholesome effect. The cleared areas were sown and planted up with seeds and will be closed for regeneration for a long term of years.

178. In the month of November, the Conservator moved camp into the Mádha Range of the Sholápur Division, and inspecting the forests of that range proceeded to the Bársi Range, where he was met by the Divisional Forest Officer, Sholápur, Mr. Hornidge, with his office, which was examined. A detailed inspection of the forests in this and of the Karmála Ranges was made. The Conservator was very much pleased to see a fine young growth of timber, including teak trees, covering the slopes of the Yedshi Hills in the Bársi Range, and that reboisement has been very successful upon the catchment slopes of the Koregaon Lake. Teak and other junglewood trees are seeding in these places, and consequently if protection continues to be good, as at present, which no doubt it will, reafforestation with good timber may be regarded as a certainty, without further expenditure in sowing or planting. The Conservator was also gratified to see that the bábul reserves of the Bársi, Mádha and Karmála Ranges have improved very rapidly and contain a valuable and promising young growth of timber, and that the water-sheds and uplands, which have been placed under forest reservation only since the Deccan famine and have been treated very simply and inexpensively for reboisement, are thickly overgrown by thorny and other bushes interspersed with trees. Where the ground was perfectly bare a few years ago and only speargrass appeared during the rains, there is now an excellent growth of young trees; and the fodder and pasturage are unsurpassable.

179. Leaving the Karmála Taluka of the Sholápur Division, the Conservator marched into the Karjat Táluka of the Ahmednagar Division, and crossing the Bhima river near Shirápur, in the Poona District, encamped at Gar in the Ahmednagar Division, by the middle of December. Here Mr. Wilkins, the Divisional Forest Officer, Ahmednagar, and Mr. R. C. Wroughton, Divisional Forest Officer, Poona, joined the Conservator's camp with their offices, which were examined, and the forest matters of the two divisions were discussed; and reserved forests under systematic working and other forest lands were visited daily, while the Conservator's camp was moving up the Bhima valley, through the bábul forests of the Sirur Range, to Poona for the Christmas vacation. Colonel Pullan, Superintendent of Forest Surveys, was visited by the Conservator at Párgaon, who conferred with him about the surveys of the bábul reserves upon the 16″ scale in the Bhimthadi Range, and inspected some of the maps which had been done recently.

180. After the Christmas vacation the office opened at Bhusával in the East Khándesh Division, to which place it had gone by railway in the meanwhile, and the Conservator marched through the forests of this range into the Edlabad Range, and encamped at Ghodasgaon, on the banks of the Purna river. Inspecting the Tránspurna reserved forest and the bábool felling operations undertaking therein, and crossing the Tápti river near Ainpur, the Conservator encamped at Ráver, where he was met by Mr. F. R. Desái, Deputy Conservator of Forests, 1st

grade, and Divisional Forest Officer, East Khándesh, when the divisional office accounts and records were examined. And sending their heavy camps and offices by cart road below the hills to Virwada, in the Chopda Range, the Conservator and the Divisional Forest Officer travelled through the Sátpuda Hill forests of the Ráver, Sávda, Yával and Chopda Ranges of the East Khándesh Division, from Pal in the east to the Aner beyond Umarti on the West. Tents and all equipment had to be transported by pack bullocks through these wide-stretching forests. A young crop of beautiful anjan saplings is restocking the ground in the reserved forests round Pal, and its surrounding settlements of Jinsi and Morwal in all directions; and the Sátpuda forests of Khándesh, except where the exercise of privileges is retarding development, are improving wonderfully. If these forests were properly treated, they would become an inexhaustible source of wealth and a wide field for the employment of labour and for the promotion and maintenance of industries. It would be of advantage if a cart-road could be made through the hills east and west from the Pal Settlement on the one side, to near Virwada on the other, with other cart-roads to lead down from the hills into the plains of the Tápti valley, by the way of the Kharkhana and other ghâts. By opening out communications in the Sátpudas, a very extensive source of grass supply will be made accessible to the champaign country, both north and south of the Tápti, where grass is in request, and where a grass famine frequently prevails. Timber and firewood, at present shut up, will become exploitable, the forests will be brought under systematic working, timber trade will be stimulated, giving employment to the local labour skilled in timber operations, and forest revenues will go up concurrent with the increased augmentation of the capital value of the forest: provided always that promiscuous exploitations under the exercise of depleting privileges are put a stop to.

181. It was most refreshing to see fire conservancy almost perfect on the British side of the frontier line, while Holkar's forest lands were completely searched by constant fires; and it was not unpleasant to walk and ride through a sea of excellent grass. The Conservator walked the Suka river from Manjel to its rise, and followed the Aner river from its first springs to Umarti and found that both rivers contain surface water in constant pools and almost continuous flow.

182. Leaving the East Khándesh Division by the end of January the Conservator entered the Shirpur Sátpudas of the West Khándesh Division, and after inspecting the forests in this range and the timber brought to temporary depôt for sale, he marched through the Sháháda Sátpudas and through a corner of the Badwari State *viâ* Pansemal, and encamped at Fatepur in the Sháháda Range, where Mr. Fagan, the Divisional Forest Officer, West Khándesh, joined him. Some of the timber felled in Bhil settlements in the Sháháda and Akráni Ranges was inspected, in company with Mr. Fagan, and after examining the divisional office accounts and records, the Conservator marched westward into the Taloda Range, leaving Mr. Fagan at Fatepur to complete the auction sales of the felled timber in the Akráni and Sháháda Ranges. After inspecting some forests and some works in the Taloda, Nandurbár, Nizámpur and Pimpalner Ranges of the West Khándesh Division, the Conservator moved camp into the leased Dángs, *viâ* Zakriabari, and encamped for a short time at Khubeta in the Garvi Dángs, where the timber explotitation operations of the contractors working on behalf of the Department were inspected. From Garvi Dángs the Conservator proceeded into the Pimpri Dángs and thence to Waghai, where he was met by the Divisional Forest Officer, Mr. R. H. Mádan, who was appointed to the Surat Division during the absence of Mr. W. S. Hexton, who was on leave. On arriving at Waghai the Divisional Forest Office accounts and registers were examined, and in company with Mr. Mádan the forests in the vicinity of Waghai and the Waghai depôt were examined.

183. Leaving the Waghai Dángs by the 5th of March, the Conservator marched through the Bánsda State and the Chikhli Táluka of the Surat Division and encamped at Bilimora; he then proceeded to Godhra with part of his office establishment, and directed the office camp to be removed from Bilimora to Pálghar in the North Thána Division. After examining the Divisional Forest Office, Panch Maháls, the Conservator returned back to Pálghar, and while

inspecting the forests in the Máhim Range was met by Mr. Fry, the Divisional Forest Officer, Working Plans, at Sophála, who accompanied the Conservator up to the close of the year, during which period some of the blocks and compartments were examined in this as well as the Sálsette Ranges; and the Conservator's camp was at Bhándup in the Sálsette Range of the North Thána Division on the 31st March 1890.

184. During his tour of inspection, the Conservator examined the Divisional Forest Offices of Sátára, Sholápur, Ahmednagar, Poona, East and West Khándesh, Surat, Panch Maháls and Working Plans, and found them in good working order.

185. The North Thána Forest Division was under Messrs. A. D. Wilkins and F. Gleadow, from 1st April to 31st October and 1st November to 31st March, respectively; and both these officers deserve much credit for their able and efficient management. Mr. Gleadow speaks in commendatory terms of Messrs. Baptista and Robinson, Sub-division Officers. The Collector records that "Mr. Gleadow's report is most creditable to his ability and devotion," and the Conservator would add that Mr. Gleadow's zeal and knowledge of his profession are conspicuous.

186. Mr. G. P. Millett, Divisional Forest Officer, South Thána, has discharged his duties in a highly satisfactory manner; and the Collector of the district has recorded that his progress report shows a clear understanding and a minute knowledge of the difficulties in the way of improved conservancy. Messrs. R. H. Mádan and J. H. Clabby, who were his Sub-division Officers during the year, have also, he reports, worked energetically and conscientiously.

187. Mr. F. R. Desái, Deputy Conservator of Forests, 1st grade, merits acknowledgment for his good work and the constant attention to his duties in East Khándesh. The Collector, Mr. Loch, C. S., has recorded that "the result of the year's work in East Khándesh has been satisfactory; both the gross and net revenue have been increasing steadily for the past four years, and there is every reason to hope that, if the division remains under the charge of an experienced and energetic officer like Mr. Desái, the improvement will continue."

188. The West Khándesh Forest Division was in charge of Mr. R. S. Fagan, who has also earned the acknowledgments of the Collector in the following words:—

"The undersigned has on former occasions expressed his opinion of Mr. Fagan's efficiency as a Forest officer. He will only now say that Mr. Fegan has worked as zealously and successfully as before, though his health has at times been far from satisfactory."

The Conservator fully endorses these opinions, for Messrs. Desái and Fagan are very zealous officers with great devotion to duty. Mr. Fagan reports that Mr. G. S. Hingé, his Sub-division Officer, has been energetic and has given him much assistance.

189. Mr. W. G. Betham, Deputy Conservator of Forests, 2nd grade, has administered the Násik forests in a satisfactory manner. He commends his Sub-division Officer, Mr. Wallinger, for having worked with energy, zeal and activity.

190. Mr. Horatio Mainwaring was Divisional Forest Officer, Ahmednagar, from 1st April to 31st October 1889, on which date he proceeded to Europe sick, and the Conservator has thereby been deprived, for a time, of the cordial help of a zealous and intelligent officer. Mr. Wilkins, who succeeded Mr. Mainwaring, has administered the forest division with his wonted vigour and energy. The Acting Collector of the district remarks that "the affairs of the Department appear to have been carried on very satisfactorily during the year."

191. Mr. R. C. Wroughton, Divisional Forest Officer, Poona, has continued to earn the acknowledgments of the Conservator by a conscientious performance of his duties, and speaks favourably of Mr. W. R. Gaundé, his Sub-division Officer.

192. The Collector of Sátára, Mr. R. E. Candy, C.S., writes:—

"He believes that Mr. Greatheed is a most conscientious worker and has done his very best to grapple with the mass of work which falls to the lot of a Forest officer in this very extensive division."

And Mr. H. E. Winter, C. S., in forwarding the report of the Sholápur Division has remarked :—

"The report is exceedingly interesting and shows that Mr. Hornidge has given careful personal attention to every branch of his important charge."

While the Collector of the Panch Maháls has recorded a very high opinion of Mr. Keys, the Divisional Forest Officer, Panch Maháls, who has been very successful in the management of his charge: the Conservator concurs thoroughly with the Collector upon this point.

193. Mr. T. B. Fry, Divisional Forest Officer, Working Plans, is an excellent Forest officer, as active and energetic in the forests as punctual and careful in office; and has been of great assistance to the Conservator and to the Divisional Forest Officers of Thána, more particularly.

194. The Collectors of the several districts, composing the Northern Circle, take active participation in the administration of the forest business of the Circle, and the Conservator must acknowledge the very ready and courteous assistance and consideration he has received from them at all times. Mr. East, in Poona, Mr. Loch in Khándesh, Mr. Porteous in Thána, Mr. Campbell in the Panch Maháls, Mr. Candy in Sholápur, Mr. Winter in Sátára, are ever ready to co-operate in the furtherance of forest interests and to support this Department, as far as may be possible, in their judgment with due regard to other conflicting interests.

195. The Superintendent of Forest Surveys, Colonel Pullan, and his officers have also performed excellent work for this Department and deserve special mention.

196. Of Range Forest Officers, Rangers Hassan Ali Mahomed Ali and Shaik Abbas in North Thána; Mr. Govind Rámchandra Takle in South Thána; Abdul Rasul, Ranger of Chopda in East Khándesh; and Forester Dildár Ali in West Khándesh; Rangers Shitárám Hari Waze, Rámchandra Rawji Bodwadkar and Lakshman Bhiwji Pápde in Násik; Rangers Vishnu Mahádeo Tilak and Báláji Dhondeo Dhekne in Poona; Mr. Keshav Pándurang Kavthekar in Sátára; Mr. Walabhrám Mulji Bhat in Surat and Mr. Dámodar Moreshwar Deuskar in the Panch Maháls, are specially brought to notice for constant, zealous, intelligent and satisfactory performance of duty: and these officers, considering the arduous nature of their duties and the heavy responsibilities placed upon them, richly deserve to have their names prominently mentioned in the Forest Administration Report of the Circle.

197. The Conservator has much pleasure in testifying to the good work done by Messrs. Krishnáji Bábáji Phadke, Keshav Ganesh Vaidya, Mahádeo Náráyan Gokhale and Krishnáji Vyankatesh Lohokare in his office and by Messrs. Shivrám Bhikáji Rángnekar, Trimbark Bhikáji Lawháte, Dámodar Tukárám Salsingikar, Nimráj Keshav Chándekar, Bálkrishna Gopál Kher, Trimbak Govind Mahájan, Govind Sitárám Rájurkar, Anáji Gopál Mujumdár and Vyankatesh Hari Shikhare, who have been recommended by the Divisional Forest Officers for satisfactory performance of their duties. Where clerks in their own humble spheres do their best in willing, ungrudging service, working, very often, after regular office hours, to promote a satisfactory administration, it would be as ungracious as impolitic to avoid according to them such a very small measure of distinction as prominent mention of their names in this history.

198. In the Forest Class attached to the College of Science, Poona, four students were admitted in the junior class in January 1890 and one passed the final examination in September 1839.

A. T. SHUTTLEWORTH,
Conservator of Forests, Northern Circle.

Poona, 31st October 1890.

B 911—13 NC

FORM No. 49.

FOREST DEPARTMENT, BOMBAY, NORTHERN CIRCLE.

Area of Reserved Forests, 1889-90.

Division.	Civil District or Territory.	Name of Forest.	Area on 1st April 1889. Acres.	Area on 1st April 1889. Equivalent in Square Miles.	Added during the year. Acres.	Excluded or transferred to other heads. Acres.	Area on 31st March 1890. Acres.	Area on 31st March 1890. Equivalent in square miles.	Number and Date of Notification of addition or transfer.	Remarks.
				Sq. m. a.				Sq. m. a.		
North Thána ...	Thána		192,016	300 16	*(a) 46,182	(b) 97	238,101	372 21	(a) Nos. 4347 17-6-89, 8608 12-11-89.	* Out of this area, 42,429 acres represent rectification of area.
									(b) Nos. 2531 1-4-89, 9321 10-12-89.	
South Thána ...			209,301	327 21	†(c) 71,028	...	280,329	438 9	(c) Nos. 8608A 12-11-89, 8608B 12-11-89, 8608C 12-11-89, 4036 4-6-87, 8675 14-11-89.	† Out of this, 69,588 acres represent rectification of area.
East Khándesh ...	Khándesh ...		511,840	799 480	...	(d) 1,208	510,632	797 552	(d) No. 1962A 17-3-90.	
West Khándesh...			792,616	1,238 296	(e) 108	‡(f) 25,513	767,211	1,198 491	(e) No. 7262 27-9-89. (f) Nos. 8949 26-11-89,	‡ Out of this, 25,028 acres represent rectification of area.
									No. 9711 23-12-89.	
Násik	Násik		817,828	1,277 548	§ (g) 933	‖ 55,613	763,148	1,192 268	(g) Nos. 8925 25-11-89, 8928 25-11-89, 2668 8-4-89, 3169 30-4-89, 6289 27-8-89, 1537 26-2-90.	§ Out of this, 349 acres represent rectification of area.
Ahmednagar ...	Admednagar ...		549,731	858 611	(h) 3,786	(i) 74	553,443	864 483	(h) Nos. 8040 24-10-89, 1960 17-3-90.	‖ Retification of area.
Poona	Poona		473,748	740 148	(j) 4,741	(k) 3,102	475,387	742 507	(i) Nos. 4729 3-7-89, 3567 15-5-89.	
Sátára	Sátára		426,241	666 1	¶ (l) 10,309	(m) 57	436,493	682 13	(j) Nos. 7346 30-9-89, 8384 4-11-89, 3546 15-5-89, 7344 30-9-89, 7345 30-9-89, 2791 8-4-89, 5052A 16-7-89.	¶ Out of this, 19 acres represent rectification of area.
Sholápur	Sholápur ...		174,526	272 446	(n) 2,716	...	177,242	276 602	(k) Nos. 2918 17-4-89, 9319 10-12-89, 9709 23-12-89, 3499 13-5-89, 6285 26-8-89.	
Surat	Surat		44,284	69 124	...	** (o) 644	43,640	68 120		** Out of this, 495 acres represent rectification of area.
Dángs			434,240	678 320	...	...	434,240	678 320	(l) Nos. 1095 13-2-90, 1182 15-3-90.	
Kaira	Kaira		39	0 39	...	...	39	0 39	(m) No. 1158 12-2-90.	
Panch Mahás ...	Panch Mahás ...		117,297	183 177	(p) 1	(q) 55	117,243	183 123	(n) No. 6691 9-9-89.	
Ahmedabad ...	Ahmedabad ...		21,878	34 118	...	†† (r) 316	21,562	33 442	(o) Nos. 7746 14-10-89, 6211 22-8-89.	†† Out of this, 24 acres represent rectification of area.
		Total ...	4,765,585	7,446 145	139,804	86,679	4,818,710	7,529 150	(p) No. 791 31-1-90. (q) No. 792 31-1-90.	
									(r) No. 4724 3-7-89.	

Dated Poona, 31st October 1890.

A. T. SHUTTLEWORTH,
Conservator of Forests, Northern Circle.

FORM No. 49A.

FOREST DEPARTMENT, BOMBAY, NORTHERN CIRCLE.

Area of Protected Forests, 1889-90.

Division.	Civil District or Territory.	Name of Forest.	Area on 1st April 1889.		Added during the year.	Excluded or transferred to other heads.	Area on 31st March 1890.		Number and Date of Notification of addition or transfer.	Remarks.
			Acres.	Equivalent in Square Miles.	Acres.	Acres.	Acres.	Equivalent in Square Miles.		
				Sq. m. a.				Sq. m. a.		
North Thána ...	Thána		189,280	295 480	*22,198	(a) 262	211,216	330 16	(a) Nos. 3507 13-5-89, 5727A 7-8-89, 7597 9-10-89, 5727 7-8-89.	* Rectification of area.
South Thána ...			225,664	352 384	...	† 6,406	219,258	342 378		† Do. do..
East Khándesh ...	Khándesh ...		34,081	53 161	...	...	34,081	53 161		
West Khándesh ...			124,951	195 151	...	...	124,951	195 151		
Násik	Násik		...	...	...	...	...	...		
Ahmednagar ...	Ahmednagar ...		7,154	11 114	...	...	7,154	11 114		
Poona	Poona		...	...	...	...	...	...		
Sátára	Sátára		28	0 28	‡ 619	(b) 16	631	0 631	(b) Nos. 6073 19-8-89, 1687 3-3-90.	‡ Rectification of area.
Sholápur	Sholápur ...		...	...	...	...	...	...		
Surat	Surat		...	...	...	...	...	...		
Dángs			...	...	...	...	...	...		
Kaira	Kaira		...	...	...	...	...	...		
Panch Mahál .	Panch Mahál ...		89,045	139 85	...	(c) 449	88,596	138 276	(c) No. 5742 7-8-89.	
Ahmedabad ...	Ahmedabad ...		...	...	...	...	...	...		
		Total ...	670,203	1,047 123	22,817	7,133	685,887	1,071 447		

Dated Poona, 31st October 1890.

A. T. SHUTTLEWORTH,
Conservator of Forests, Northern Circle.

FORM No. 50.

FOREST DEPARTMENT, BOMBAY, NORTHERN CIRCLE.

Register of breaches of Forest Rules during 1889-90.

Forest Division and Civil District.	Cases pending from 1888-89.	New Cases of the year.					Total Cases.	Disposed of during the year.						Cases pending at close of year.
		Injury to Forest by fire.	Unauthorized Felling or appropriation of Wood and minor Forest Produce.	Grazing without permission or in tracts in which Grazing is prohibited.	Other Offences.	Total new Cases of the year.		Convictions.		Acquittals.		Total.		
								Cases.	Persons.	Cases.	Persons.	Cases.	Persons.	
North Thána	...	1	102	...	3	106	106	84	232	22	45	106	277	...
South Thána	14	2	150	1	47	200	214	174	690	34	96	208	786	6
East Khándesh	2	8	107	8	255	378	380	349	449	22	34	371	483	9
West Khándesh	20	27	38	3	103	171	191	172	316	14	58	186	374	5
Násik	14	3	45	6	55	109	123	86	130	19	52	105	182	18
Ahmednagar	6	...	23	37	7	67	73	41	114	18	60	59	174	14
Poona	33	1	76	105	28	210	243	159	336	57	192	216	528	27
Sátára	1	...	12	9	6	27	28	14	16	13	33	27	49	1
Sholápur	18	...	11	86	19	116	134	73	164	45	163	118	327	16
Surat	...	...	9	...	1	10	10	6	10	2	8	8.	18	2
Panch Mahals	...	...	37	1	...	38	38	30	62	7	25	37	87	1
Total ...	108	42	610	256	524	1,432	1,540	1,188	2,519	253	766	1,441	3,285	99

Dated Poona, 31st October 1890.

A. T. SHUTTLEWORTH,
Conservator of Forests, Northern Circle.

FORM No. 51.

FOREST DEPARTMENT, BOMBAY, NORTHERN CIRCLE.

Area of Forest Tracts protected from Fire during the Dry Season.

Division.	Forest Tracts.	Year in which protection commenced.	Area actually protected up to 15th June 1889.	During the Dry Season of 1890.			Cost during the Season.	Remarks.
				Area attempted to be protected.	Failures.	Actually protected.		
			Acres.	Acres.	Acres.	Acres.	Rs.	
North Thána ...	Sálsette	1878-79 ...	16,976	15,691	1,099	14,592	93	
	Bassein	,, ...	40,676	54,617	2,104	52,513	127	
	Máhim	,, ...	99,495	127,345	1,169	126,176	373	
	Dáhánu...	,, ...	122,118	122,524	649	121,875	291	
	Umbargaon	,, ...	38,156	38,717	270	38,447	155	
	Váda	,, ..	41,523	90,453	2,750	87,703	142	
	Total ...	.....	358,944	449,347	8,041	441,306	1,181	
South Thána ...	Bhiwndi	1878-79 ...	44,386	48,034	3,073	44,961	77	
	Sháhápur	,, ...	68,116	85,170	3,319	81,857	110	
	Khardi	,, ...	79,312	72,735	2,948	69,787	92	
	Mokháda	,, ...	58,585	49,423	50	49,373	70	
	Kalyán	,, ...	28,769	115,072	2,059	113,013	70	
	Murbád...	,, ...	90,155	90,290	4,140	86,150	66	
	Karjat	,, ...	34,819	27,661	406	27,255	121	
	Khálápur	,, ...	16,909	18,024	317	17,707	77	
	Total ...	... ..	421,051	506,409	16,312	490,097	683	
East Khándesh...	Amalner	1878-79 ...	19,741	20,295	528	19,767	...	
	Páchora	,, ...	22,986	31,126	2,644	28,482	...	
	Bhadgaon	,, ...						
	Bhusával	,, ...	10,558	64,459	9,383	55,076	...	
	Edalabad	,, ...						
	Chálisgaon	,, ...	17,424	64,933	958	63,975	...	
	Chopda...	,, ...	134,065	114,832	3,875	110,957	...	
	Erandol	,, ...	12,169	17,602	2,579	15,023	...	
	Jalgaon...	,, ...	2,626	21,089	290	20,799	...	
	Jámner...	,, ..	37,981	41,773	1,940	39,833	1	
	Ráver...	,, ...	34,320	186,364	5,775	180,589	69	
	Sávda	,, ...						
	Yával	,, ...						
	Total ...	.....	291,870	562,473	27,972	534,501	70	
West Khándesh	Dhulia	1878-79 ...	118,153	122,097	116	121,981	...	
	Nandurbár	,, ...	35,791	66,663	40,503	26,160	29	
	Nizámpur	,, ...						
	Pimpalner	,, ...	198,155	284,372	103,780	180,592	27	
	Navápur	,, ...						
	Sháháda	,, ...	.....	85,784	70,000	15,784	2	
	Shirpur...	,, ...	151,834	276,673	150,000	126,673	25	
	Sindkheda	,, ...	24,916	24,916	670	24,246	29	
	Taloda	,, ...	... ..	290,383	225,676	64,707	32	
	Akráni	,, ...						
	Total ...	.....	528,849	1,150,888	590,745	560,143	144	
Násik	Násik	1878-79 ...	43,055	43,970	50	43,920	...	
	Igatpuri	,, ...	53,821	53,948	339	53,609	...	
	Sinnar	,, ..	35,366	35,371	...	35,371	...	
	Dindori...	,, ..	54,969	.....	...	...	...	
	Niphád	,, ...	3,446	3,446	...	3,446	...	
	Chándor	,, ...	24,948	24,940	16	24,924	...	
	Yeola	,, ...	31,492	31,496	76	31,420	3	
	Báglán	,, ...	123,680	124,167	675	123,492	11	
	Kalvan	,, ...	100,178	109,364	4,949	104,415	...	
	Peint	,, ...	105,939	107,217	127	107,090	...	
	Málegaon	,, ...	121,804	122,105	126	121,979	...	
	Nándgaon	,, ...	107,066	107,303	2	107,301	...	
	Total ...	.. ...	805,754	763,327	6,360	756,967	14	

FORM No. 51—*continued.*

Division.	Forest Tracts.	Year in which protection commenced.	Area actually protected up to date.	During the dry season of			Cost during the year.	Remarks
				Area attempted to be protected.	Failures.	Actually protected.		
			Acres.	Acres.	Acres.	Acres.	Rs.	
Ahmednagar	Nagar	1878-79	41,583	41,880	...	41,880	...	
	Párner	,,	68,767	68,899	20	68,879	...	
	Shrigonda	,,	43,415	45,289	389	44,900	...	
	Karjat	,,	50,310	50,695	60	50,635	...	
	Jámkhed	,,	39,697	40,548	55	40,493	...	
	Shevgaon	,,	27,603	27,724	...	27,724	...	
	Nevása	,,	19,881	20,676	26	20,650	...	
	Ráhuri	,,	50,970	51,081	18	51,063	...	
	Kopargaon	,,	8,889	9,042	...	9,042	...	
	Sangamner	,,	86,414	87,691	2	87,689	...	
	Akola	,,	109,649	119,987	247	119,740	...	
	Total	.....	547,178	563,512	817	562,695	...	
Poona	Junnar	1878-79	55,193	61,075	2,754	58,321	...	
	Indápur	,,	62,493	62,467	45	62,422	...	
	Khed	,,	54,927	56,739	864	55,875	...	
	Ambegaon	,,	43,130	43,463	3	43,460	...	
	Sirúr	,,	20,235	20,841	120	20,721	..	
	Purandhar	,,	25,408	25,968	115	25,853	...	
	Bhimthadi	,,	53,826	54,245	8	54,237	...	
	Bárámáti	,,	20,031	20,135	66	20,069	...	
	Haveli	,,	49,728	50,137	57	50,080	...	
	Mulshi	,,	25,093	28,049	430	27,619	6	
	Mával	,,	54,084	54,816	331	54,485	68	
	Total	.....	464,148	477,935	4,793	473,142	74	
Sátára	Mahábaleshvar	1878-79	40,516	41,412	60	41,352	8	
	Mán	,,	56,156	56,099	...	56,099	...	
	Khatáv	,,	16,503	16,503	...	16,503	...	
	Karád	,,	35,977	35,986	30	35,956	...	
	Wái	,,	24,892	24,892	17	24,875	...	
	Koregaon	,,	28,686	28,772	10	28,762	...	
	Sátára	,,	22,263	22,263	12	22,251	...	
	Tásgaon	,,	13,573	20,008	...	20,008	...	
	Khandála	,,	14,195	14,195	...	14,195	...	
	Jávli	,,	50,785	50,807	16	50,791	...	
	Khánápur	,,	30,425	30,428	17	30,411	...	
	Válva	,,	25,569	27,394	24	27,370	...	
	Shirála	,,						
	Pátan	,,	66,246	68,400	294	68,106	...	
	Total	.....	425,786	437,159	480	436,679	8	
Sholápur	Sholápur	1878-79	37,305	38,310	258	38,052	...	
	Bársi	,,	8,484	8,536	7	8,529	...	
	Mádha	,,	30,164	31,401	313	31,088	...	
	Karmála	,,	50,479	50,996	...	50,996	...	
	Pandharpur	,,	5,873	6,094	...	6,094	...	
	Sángola	,,	17,757	20,473	...	20,473	...	
	Málsiras	,,	21,433	21,432	87	21,345	...	
	Total	.....	171,495	177,242	665	176,577	...	
Surat	Mándvi	1878-79	32,457	41,069	15,000	26,069	...	
	Dángs	,,	144,747	434,240	200,000	234,240	...	
	Chikhli	,,	825	825	...	825	...	
	Bulsár and Párdi	,,	1,514	1,525	...	1,525	2	
	Bárdoli	,,	450	450	...	450	...	
	Total	....	179,993	478,109	215,000	263,109	2	
Panch Maháls	Godhra	1878-79	117,386	84,478	6,001	78,477	...	
	Kálol	,,	19,185	22,263	1,097	21,166	...	
	Hálol	,,	26,808	27,614	944	26,670	...	
	Dohad	,,	46,308	46,538	1,484	45,054	...	
	Jhálod	,,	23,367	26,872	3,791	23,081	...	
	Total	.....	233,054	207,765	13,317	194,448	...	
	Grand Total	.....	4,428,122	5,774,166	884,502	4,889,664	2,176	

A. T. SHUTTLEWORTH,
Conservator of Forests, Northern Circle.

Dated Poona, 31st October 1890.

B 911—14 NC

FORM No. 52.

FOREST DEPARTMENT, BOMBAY, NORTHERN CIRCLE.

Area of Plantations, 1889-90.

Division.	Name of Plantaion.	Area in Acres.				Receipts	Charges.	Remarks.
		On 1st April 1889.	Added during the year.	Excluded during the year.	Area on 31st March 1890.	Of the year.		
	Regular Plantation.	Acres.	Acres.	Acres.	Acres.	Rs.	Rs.	
North Thána...	Sálsette	107	...	...	107	...	33	
	Bassein	1	...	...	1	...	...	
	Máhim	1,880	...	...	1,880	...	61	
	Dáhánu	2	...	...	2	...	11	
	Váda...	92	...	...	92	...	10	
	Umbargaon	127	1	...	128	...	173	
	Total	2,209	1	...	2,210	...	288	
South Thána...	Bhiwndi	336	...	...	336	...	...	
	Mokháda	12	...	2	10	...	...	
	Karjat	89	3	15	77	...	50	
	Sháhápur	30	...	...	30	...	300	
	Total	467	3	17	453	...	350	
East Khándesh	Amalner	1	...	1	...	...	...	
	Bhusaval	...	...	...	...	...	...	
	Chopda	1	...	1	...	...	...	
	Edalabad	...	...	...	...	...	...	
	Erandol	1	...	1	...	...	...	
	Jalgaon	...	...	...	...	...	...	
	Jámner	1	...	1	...	...	...	
	Páchora	...	...	...	...	...	...	
	Ráver	...	...	...	...	...	...	
	Sávda	6	...	6	...	...	...	
	Yával	...	...	...	...	...	...	
	Total	10	...	10	...	...	...	
West Khándesh	Akráni	11	5	...	16	...	37	
	Dhulia	...	...	...	...	...	175	
	Nizámpur	25	...	...	25	...	92	
	Pimpalner	2	...	..	2	...	91	
	Taloda	...	...	...	...	...	25	
	Total	38	5	...	43	...	420	
Násik	Násik	Nil	...	...	...	...	...	
Ahmednagar ...	Nagar Dongargaon	142	...	...	142	...	...	
Poona	Poona	Nil	...	...	...	...	...	
Sátára... ...	Khatáv	253	18	...	271	...	108	
	Koregaon	238	...	...	238	...	51	
	Karád	270	11	...	281	...	13	
	Khandála	76	27	...	103	...	29	
	Válva	75	...	...	75	...	10	
	Sátára	68	...	...	68	...	40	
	Wái ...	205	40	...	245	...	20	
	Mán ...	154	3	...	157	...	55	
	Jávli ..	41	1	...	42	...	1	
	Mahábaleshvar	635	81	...	716	...	162	
	Tásgaon	296	6	...	302	...	21	
	Pátan	166	...	...	166	...	12	
	Khánápur	68	...	...	68	...	14	
	Shirála	26	...	...	26	...	...	
	Total	2,571	187	...	2,758	...	536	
Sholápur... ...	.....	Nil	...	...	...	...	...	
Surat	.....	Nil	...	...	...	...	...	
Panch Mahals ...	Kálol...	26	31	...	57	...	26	
	Total Regular Plantations..	5,463	227	27	5,663	...	1,620	
	Cultural Operations.							
North Thána...	Sálsette	309	202	...	511	...	65	
	Bassein	1,219	859	...	2,078	...	98	
	Máhim	1,544	1,432	...	2,976	...	120	
	Dáhánu	1,714	1,340	...	3,054	...	82	
	Umbargaon	359	427	...	786	...	143	
	Váda...	772	389	...	1,161	...	51	
	Total	5,917	4,649	...	10,566	...	559	

FORM No. 52—*continued.*

Division.	Name of Plantation.	Area in Acres. On 1st April 1889.	Area in Acres. Added during the year.	Area in Acres. Excluded during the year.	Area in Acres. Area on 31st March 1890.	Receipts. Charges. Of the year.	Remarks.
		Acres.	Acres.	Acres.	Acres.	Rs.	
South Thána ...	Bhiwndi	575	140	...	715	51	
	Sháhápur	618	65	...	683	38	
	Khardi	256	112	...	368	31	
	Mokháda	166	90	...	256	74	
	Kalyán	835	207	...	1,042	60	
	Murbád	676	32	...	708	102	
	Karjat	220	1,544	...	1,764	694	
	Khálápur	668	791	...	1,459	279	
	Total ...	4,014	2,981	...	6,995	1,329	
East Khándesh	Amalner	2,126	24	...	2,150	...	
	Bhadgaon	272	50	...	322	...	
	Bhusával	1,636	128	...	1,764	...	
	Chálisgaon	492	50	...	542	...	
	Chopda	535	82	...	617	...	
	Edalabad	389	53	...	442	...	
	Erandol	5,010	50	...	5,060	...	
	Jalgaon	457	150	...	607	...	
	Jámner	647	318	...	965	... 12	
	Páchora	35	5	...	40	...	
	Ráver	142	45	...	187	...	
	Sávda	266	30	...	296	...	
	Yával	125	200	...	325	...	
	Total ...	12,132	1,185	...	13,317	... 12	
West Khándesh	Akráni	156	27	...	183	... 14	
	Dhulia	3,153	45	...	3,198	... 1,230	
	Nandurbár	818	12	100	730	... 42	
	Navápur	1,386	12	...	1,398	... 12	
	Nizámpur	511	14	50	475	... 72	
	Pimpalner	1,400	20	...	1,420	... 205	
	Sháháda	3,398	16	17	3,397	... 10	
	Shirpur	1,705	20	...	1,725	... 105	
	Sindkheda	5,962	123	...	6,085	... 685	
	Taloda	971	60	...	1,031	... 29	
	Total ...	19,460	349	167	19,642	... 2,404	
Násik	Násik	63	25	...	88	... 162	
	Igatpuri	200	114	...	314	... 209	
	Chándwad	260	371	...	631	... 185	
	Sinnar	294	...	...	294	... 102	
	Yeola...	1,927	211	...	2,138	... 592	
	Niphád	444	8	...	452	... 156	
	Dindori	142	22	...	164	... 80	
	Málegaon	1,458	195	...	1,653	... 647	
	Nándgaon	46	313	...	359	... 198	
	Báglán	80	30	...	110	... 74	
	Kalvan	33	2	...	35	... 50	
	Peint...	...	...	...	...	... 5	
	Total ...	4,947	1,291	...	6,238	... 2,460	
Ahmednagar..	Nagar	758	170	...	928	... 378	
	Párner	577	17	...	594	... 98	
	Shrigonda	1,053	338	...	1,391	... 109	
	Karjat	319	201	...	520	... 46	
	Jámkhed	1,821	116	...	1,937	... 76	
	Shevgaon	506	30	...	536	... 29	
	Nevása	190	10	...	200	... 68	
	Ráhuri	218	3	...	221	... 260	
	Kopargaon	376	126	...	502	... 45	
	Sangamner	1,518	108	...	1,626	... 116	
	Akola	88	10	...	98	... 63	
	Total ...	7,424	1,129	...	8,553	... 1,288	
Poona	Junnar	965	...	..	965	... 6	
	Indápur	2,815	650	...	3,465	... 241	
	Khed	6,188	...	...	6,188	... 1	
	Ambegaon	2,299	...	...	2,299	... ...	
	Sirúr...	5,757	97	...	5,848	... 224	
	Purandhar	5,950	23	...	5,973	... 7	
	Bhimthadi	3,621	76	...	3,697	... 300	
	Bárámati	2,037	38	...	2,075	... 235	
	Haveli	1,421	46	...	1,467	... 143	
	Mulshi	849	...	...	849	... ...	
	Mával	1,119	...	...	1,119	... 2	
	Plantation by Forest Guards	1,652	1,788	...	3,440	... ...	
	Total ...	34,667	2,718	...	37,385	... 1,159	

FORM No. 52—*concluded.*

Division.	Name of Plantation.	Area in Acres.				Receipts	Charges.	Remarks.
		On 1st April 1889.	Added during the year.	Excluded during the year.	Area on 31st March 1890.	Of the year.		
		Acres.	Acres.	Acres.	Acres.		Rs.	
Sátára...	Mahábaleshvar	3,810	597	...	4,407	...	...	
	Shirála	271	185	...	456	...	...	
	Sátára	1,689	1,213	...	2,902	...	...	
	Mán ...	5,977	3,421	...	9,398	...	...	
	Válva	2,515	1,004	...	3,519	...	...	
	Khatáv	1,153	69	...	1,222	...	...	
	Karád	18,381	3,256	...	21,637	...	...	
	Tásgaon	1,321	14	...	1,335	...	...	
	Khánápur	3,530	1,144	...	4,674	...	...	
	Khandála	4,218	77	...	4,295	...	...	
	Pátan	5,435	711	...	6,146	...	...	
	Jávli ..	7,258	1,045	...	8,303	...	...	
	Wái ...	17,746	12	...	17,758	...	...	
	Koregaon	12,447	3,126	...	15,573	...	...	
	Total	85,751	15,874	...	1,01,625	...	..	
Sholápur	Sholápur	3,165	477	...	3,642	...	409	
	Bársi	1,499	177	...	1,676	..	218	
	Mádha	6,491	706	...	7,197	...	428	
	Pandharpur	2,699	175	...	2,874	...	137	
	Karámála	4,017	496	...	4,513	...	511	
	Sángola	3,051	1,968	...	5,019	...	213	
	Málsiras	1,523	1,369	...	2,892	...	259	
	Total	22,445	5,368	...	27,813	...	2,175	
Surat ...	Dángs	...	...	...	...	...	...	
	Chorási	22	...	22	...	...	...	
	Bulsár	147	6	...	153	...	...	
	Párdi...	40	5	...	45	...	...	
	Chikhli	140	3	...	143	...	...	
	Mándvi	568	6	...	574	...	...	
	Total	917	20	22	915	...	...	
Panch Maháls...	Godhra	152	78	...	230	...	...	
	Kálol...	28	14	...	42	...	...	
	Hálol...	39	20	...	59	...	...	
	Dohad	44	22	...	66	...	...	
	Jhálod	25	12	...	37	...	...	
	Total	288	146	...	434	...	...	
		1,97,962	35,710	189	2,33.483	...	11,386	
		5,463	227	27	5,663	...	1,620	
	Grand Total	2,03,425	35,937	216	2,39,146	...	13,006	

A. T. SHUTTLEWORTH,
Conservator of Forests, Northern Circle.

Dated Poona, 31st October 1890.

FORM No. 54.

FOREST DEPARTMENT, BOMBAY, NORTHERN CIRCLE.

Outturn (in Cubic feet, solid) of Timber and Fuel during the year 1889-90 and Agency of Exploitation.

Division.	TIMBER IN THE ROUGH; LOGS.					TIMBER IN THE ROUGH; POLES.					SAWN OR SQUARED TIMBER.					MISCELLANEOUS.					FUEL.					Total Outturn.
	Government.	Purchasers.	Free Grantees.	Right-holders.	Total.	Government.	Purchasers.	Free Grantees.	Right-holders.	Total.	Government.	Purchasers.	Free Grantees.	Right-holders.	Total.	Government.	Purchasers.	Free-Grantees.	Right-holders.	Total.	Government.	Purchasers.	Free Grantees.	Right-holders.	Total.	
	C. ft.	C. ft.	C. ft.	C ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.
North Thána ..	..	..	..	..	..	10,206	872,187	405	..	882,798	..	..	..	..	..	..	Bamboo Cart-loads ..7,816 No. 196,717	..	..	Bamboos Cart-loads . 7,816 No. 196,717	3,225	1,468,966	..	..	1,472,191	Bamboos. Cart-loads.. 7,816 No, 196,717 2,354,989
South Thána ..	..	..	..	..	..	41,868	1,379,235	1,413	..	1,422,516	..	..	..	..	.	..	Bamboos Cart-loads .. 338 Head ,, ..3,295 No. 187,757	..	..	Bamboos Cart-loads.. 338 Head ,, .. 3,295 No. 187,757	51,375	905,787	..	..	957,162	Bamboos. Cart-loads.. 338 Head ,, .. 3,295 No. 187,757 2,379,679
East Khándesh ..	77	..	..	..	77	19,700	..	..	..	19,700	..	..	..	..	..	..	Bamboos No. 955,175 199,280	..	..	Bamboos No. 255,175 199,280	443,340	1,165,930	..	..	1,609,270	Bamboos. No. 255,175 1,828,327
West Khándesh ..	..	..	..	..	..	50,489	..	..	..	50,489	..	..	..	..	..	1,983	Bamboos Cart-loads .. 15 No. 235,908 509,584	30	..	Bamboos Cart-loads.. 15 No. 235,908 511,597	245,171	456,950	..	..	702,121	Bamboos. Cart-loads 15 No. 235,908 1,264,207
Násik	78,988	244,204	15,374	..	338,566	..	..	..	..	..	..	..	..	..	..	..	Bamboos Cart-loads .. 65 Head ,, .. 849 No. 145,592	..	..	Bamboos Cart-loads.. 65 Head ,, .. 849 No. 145,592	183,060	62,697	7,447	..	253,204	Bamboos. Cart-loads.. 65 Head ,, .. 849 No. 145,592 591,770
Ahmednagar ..	..	..	..	..	..	114,882	..	..	..	114,882	..	..	..	..	..	308	Bamboos No. 26,195 6,740	18,048	..	Bamboos No. 26,195 25,096	168,150	12,335	..	..	181,485	Bamboos. No. 26,195 321,463
Poona	97,547	..	..	..	97,547	34,738	39,902	1,680	..	76,320	..	..	..	..	..	..	Bamboos No. 136,821	..	..	Bamboos No. 136,821	268,272	910	..	..	269,182	Bamboos. No. 136,821 443,049
Sátára	..	7,479	..	..	7,479	33,452	1,204	1,432	..	36,088	..	..	..	..	..	Bamboo No. 600	Bamboos Head-loads.. 500 No. 2,826	..	..	Bamboos Head-loads.. 500 No. 3,426	123,275	12,185	200	..	135,660	Bamboos. Head-loads.. 500 No. 3,426 179,227
Sholápur	1,979	..	..	..	1,979	10	..	..	..	10	..	..	..	..	..	..	154	..	..	154	24,184	1,280	..	..	25,464	27,607
Surat	81,066	33,892	..	..	114,958	220,146	..	..	..	220,146	..	..	..	..	..	849	Bamboos Head-loads 2,421 No. 446,807 27,519	..	..	Bamboos Head-loads.. 2,421 No. 446,807 28,368	3,111	17,087	..	..	20,198	Bamboos. Head loads.. 2,421 No. 446,807 383,670
Panch Maháls ..	5,348	248,906	72	..	254,326	504	50,754	..	..	51,258	..	..	..	..	..	1,949	Bamboos No. 54,183 90,094	22,286	..	Bamboos No. 54,183 114,329	49,711	117,304	..	..	167,015	Bamboos. No. 54,183 586,928
Total ..	265,005	534,481	15,446	..	814,932	525,995	2,343,282	4,930	..	2,874,207	..	..	..	..	..	Bamboos No. 600 5,089	Bamboos Cart-loads.. 8,234 Head ,, .. 7,065 No. 1,687,981 833,371	40,364	..	Bamboos Cart-loads.. 8,234 Head ,, .. 7,065 No. 1,688,581 833,371	1,562,874	4,222,431	7,647	..	5,792,952	Bamboos Cart-loads.. 8,234 Head ,, .. 7,065 No. 1,688,581 10,709,915

Dated Poona, 31st October 1890.

A. T. SHUTTLEWORTH,
Conservator of Forests, Northern Circle.

FORM No. 55.

FOREST DEPARTMENT, BOMBAY, NORTHERN CIRCLE.

Outturn of Minor Forest Produce.

Division.	Description of Produce.	PRODUCE REMOVED OR UTILIZED									
		By Government Agency.		By Purchasers.		By Free Grants.		By Right-holders.		Total.	
		Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
			Rs.		Rs.		Rs.		Rs.		Rs.
North Thána.	Apta, temburni, palas, bel and brab tree leaves	...	...	.....	3,766	...	...	...	...	.....	3,766
	Shembi bark	...	...	.....	311	...	...	...	...	.....	311
	Gum	...	...	.....	564	...	...	...	...	.....	564
	Stone... ... ... Cart-loads.	...	...	.....	51	...	...	...	...	.....	51
	Karvi, large and small ... ... Do.	...	...	704	176	...	...	...	...	704	176
	Myrabolans ... ... Khandis.	69	1,343	.....	...	...	...	...	...	69	1,343
	Miscellaneous. Head-loads, &c.	...	...	.....	153	...	...	...	...	.....	153
	Total ...	...	1,343	.....	4,980	...	...	...	...	.....	6,323
South Thána.	Hirda ... ... Khandis.	92	1,645	.....	...	...	...	...	...	92	1,645
	Do. ... ... Head-loads.	...	...	151	5	...	...	...	...	151	5
	Palm, teak, apta and temburni leaves ... Head-loads, &c.	50	12	.....	2,737	...	...	...	...	50	2,749
	Sticks	...	...	.....	18	...	...	...	...	.....	18
	Gums	...	...	.....	63	...	...	...	...	.....	63
	Thorns ... ... Cart-loads.	...	...	49	41	...	...	...	...	49	41
	Do. ... ... Head-loads.	...	...	10	1	...	...	...	...	10	1
	Mowra flowers	...	...	.....	92	...	...	...	...	.....	92
	Brab trees	...	...	43	5	...	...	...	...	43	5
	Lime-stones... ... Cart-loads.	...	...	160	40	...	...	...	...	160	40
	Mango fruits	...	...	.....	3	...	...	...	...	.....	3
	Miscellaneous articles	...	868	.....	...	...	...	...	...	.....	868
	Total ...	...	2,525	.....	3,138	...	...	...	...	.....	5,663
East Khándesh.	Stones ... ... Cart-loads.	...	...	2,601	361	...	...	...	...	2,601	361
	Lime-stones... ... Do.	...	...	36	4	...	...	...	...	36	4
	Earth ... ... Do.	...	...	61	7	...	...	...	...	61	7
	Thorns ... ... Do.	...	...	3,025	216	...	...	...	...	3,025	216
	Rosha-grass stills ... ... No.	...	...	4	112	...	...	...	...	4	112
	Mango fruits	...	...	.....	1	...	...	...	...	.....	1
	Manure ... ... Cart-loads.	...	...	55	18	...	...	...	...	55	18
	Anjan leaves ... Do.	...	...	111	28	...	...	...	...	111	28
	Miscellaneous	...	...	.....	146	...	...	...	...	.....	146
	Total ...	...	...	.....	893	...	...	...	...	.....	893
West Khándesh.	Rosha-grass stills ... ... No.	...	...	173	10,502	...	...	...	...	173	10,502
	Reeds ... ... Cart-loads.	...	...	385	482	...	...	...	...	385	482
	Thorns ... ... Do.	...	...	224	14	...	...	...	...	224	14
	Stone... ... Do.	...	...	361	85	...	...	...	...	361	85
	Do. (lime) ... Do.	...	...	1,484	186	...	...	...	...	1,484	186
	Earth ... ... Do.	...	...	399	50	...	...	...	...	399	50
	Manure ... ... Do.	...	...	3,493	823	...	...	...	...	3,493	823
	Charcoal ... ... Do.	...	...	1	1	...	...	...	...	1	1
	Grass... ... ... Do.	...	...	48,330	6,041	...	...	...	...	48,330	6,041
	Mango fruits	...	...	.....	87	...	...	...	...	.....	87
	Grazing by fee-system, &c., &c....	...	...	.....	72,740	...	...	...	...	.....	72,740
	Miscellaneous	...	...	.....	664	...	...	...	...	.....	664
	Total ...	...	...	.....	91,675	...	...	...	...	.....	91,675
Násik.	Stones ... ... Cubic feet.	...	...	11,133	70	1,966	7	...	...	13,099	77
	Tarwad	...	...	.....	46	...	...	...	...	.....	46
	Manure ... ... Cart-loads.	...	...	384	187	...	...	...	...	384	187
	Karvi ... ... Head-loads.	...	...	2,275	37	...	...	...	...	2,275	37
	Do. ... ... Cart-loads.	...	...	7	3	...	...	...	...	7	3
	Cart-loads and head-loads of rab.	...	...	4,472	70	...	...	...	...	4,472	70
	Thorns ... ... Cart-loads.	...	...	713	191	...	...	...	...	713	191
	Do. ... ... Head-loads.	...	...	76	26	...	...	...	...	76	26
	Do. ... Bullock-loads.	...	...	74	16	...	...	...	...	74	16
	Rosha-oil stills ... ... No.	...	...	71	510	...	...	...	...	71	510
	Grass and grazing by auction ..	...	...	.....	19,930	...	...	...	...	.....	19,930
	Grazing by fee-system	...	...	.....	34,271	...	...	...	...	.....	34,271
	Sand ... ... Cart-loads.	...	...	15	1	...	...	...	...	15	1
	Hirda ... ... Khandis.	...	...	104	2,029	...	...	...	...	104	2,029
	Catechu furnaces	...	...	6	25	...	...	...	...	6	25
	Apta, temburni and anjan leaves	...	...	.....	183	Cart-loads. 800	400	...	...	800	583
	Miscellaneous	...	...	.....	98	...	...	...	...	.....	98
	Total ...	...	...	.....	57,693	...	407	...	...	.....	58,100
Ahmednagar.	Hirda ... ... Khandis.	132	4,926	.....	...	...	...	...	...	132	4,926
	Karvi ... ... Bundles.	...	...	139	4	...	...	...	...	139	4
	Stones ... ... Cart-loads.	...	...	8,363	542	...	...	...	...	8,363	542
	Fruits	...	...	.....	20	...	...	...	...	.....	20
	Tarwad	...	...	.....	719	...	...	...	...	.....	719
	Miscellaneous	...	...	.....	255	...	...	...	...	.....	255
	Total ...	...	4,926	.....	1,540	...	...	...	...	.....	6,466

FORM No. 55—*continued.*

Division.	Description of Produce.		PRODUCE REMOVED OR UTILIZED									
			By Government Agency.		By Purchasers.		By Free Grants.		By Right-holders.		Total.	
			Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
				Rs.		Rs.		Rs.		Rs.		Rs.
Poona.	Hirda	Khandis.	78	1,318	63	1,942	...	...	...	...	141	3,260
	Grass and grazing...		...	...	.....	50,938	...	88,000	...	...	.....	1,38,938
	Stones and earth ...	Cart-loads.	...	...	2,270	568	2,800	700	...	...	5,070	1,268
	Karvi...	Head-loads.	...	...	4,000	252	...	...	...	...	4,000	252
	Tarwad		...	...	.....	704	...	...	...	...	.....	704
	Fruits		...	...	.....	1	...	...	...	...	.....	1
	Rab	Head-loads.	...	...	490	31	...	700	...	...	490	731
	Miscellaneous		...	...	.....	375	...	200	...	...	.....	575
		Total ...	...	1,318	.....	54,811	...	89,600	...	...	.....	1,45,729
Sátára.	Grass and grazing...		...	...	.....	41,958	...	...	...	...	.....	41,958
	Hirda...	Khandis.	193	10,140	.....	...	...	...	...	...	193	10,140
	Shikakai	... Seers.	11	2	.....	576	...	...	...	...	11	578
	Stones	Cubic feet.	...	...	2,857	15	...	...	...	...	2,857	15
	Do.	Cart-loads.	...	...	10,897	744	...	...	...	...	10,897	744
	Earth	Do.	...	...	11	2	...	...	...	...	11	2
	Thorns	Do.	...	...	729	85	...	...	...	...	729	85
	Brushwood	Do.	...	...	6	2	...	...	...	...	6	2
	Do.	Head-loads.	...	...	2,035	225	76	9	...	...	2,111	234
	Thorns	Do.	...	...	12,728	847	...	...	...	...	12,728	847
	Kárvi	Do.	...	...	100	6	...	...	...	...	100	6
	Tarwad		...	...	.....	357	...	...	...	...	.....	357
	Temburni and aloe leaves ...		...	...	.....	123	...	...	...	...	.....	123
	Miscellaneous		...	...	.....	34	...	...	...	...	.....	34
		Total ...	...	10,142	.....	44,974	...	9	...	...	.....	55,125
Sholá-pur.	Bábul bark ...	Head-loads.	9	37	.....	...	...	...	...	...	9	37
	Tarwad bark		...	...	.....	308	...	...	...	...	.....	308
	Tamarind fruits		...	...	.....	6	...	...	...	...	.....	6
	Gum	Maunds.	...	...	4	7	...	...	...	...	4	7
		Total ...	...	37	.....	321	...	...	...	...	.....	358
Surat.	Grass and grazing...		...	19	.....	657	...	...	...	...	.....	676
	Temru, khakar and ashindra leaves.	Cart-loads, &c.	...	...	1,374,035	342	...	...	...	...	1,374,035	342
	Mowra flowers ...	Maunds.	...	...	776	48	...	...	...	...	776	48
	Baru	Cart-loads.	...	...	105	27	...	...	...	...	105	27
	Honey and wax ...	Maunds.	...	...	54	15	...	...	...	...	54	15
	Bamboo mats		...	...	5,290	315	...	...	...	...	5,290	315
	Earth	Cart-loads.	...	...	2	1	...	...	...	...	2	1
	Palm trees		...	...	1,042	82	...	...	...	...	1,042	82
	Gum	Maunds.	...	...	4	1	...	...	...	...	4	1
	Miscellaneous		...	...	.....	177	...	...	...	...	.....	177
		Total ...	...	19	.....	1,665	...	...	...	...	.....	1,684
Panch Mahals.	Grass and grazing...		...	...	.....	6,179	...	...	...	...	.....	6,179
	Mowra flowers		...	...	.....	...	...	2,000	...	...	.....	2,000
	Thorns	Cart-loads.	...	...	19	4	...	...	...	...	19	4
	Stones and kankar	Do.	...	...	29	14	...	...	...	...	29	14
	Sand	Cubic feet.	...	...	72,156	90	...	...	...	...	72,156	90
	Fruit, bark, &c.		...	...	.....	39	...	...	...	...	.....	39
	Seed	Maunds.	110	110	.....	...	...	...	...	...	110	110
		Total ...	...	110	.....	6,326	...	2,000	...	...	.....	8,436

Dated Poona, 31st October 1890

A. T. SHUTTLEWORTH,
Conservator of Forests, Northern Circle.

FORM No. 56.

FOREST DEPARTMENT, BOMBAY, NORTHERN CIRCLE.

Account of Timber and other Produce cut or collected by Government agency and brought to Sale Depôts or sold locally during the year 1889-90.

Particulars.	Number or Quantity.	Cubic Feet.	Total of each Head. Number or Quantity.	Total of each Head. Cubic Feet.
TIMBER.				
Balance at commencement of the year.				
North Thána ... Teak logs and rafters ...	2,204	.....	2,204	
West Khándesh ... Do. do ...	9,561	.....	14,298	
West Khándesh ... Do. pieces ...	4,737	.....		
Násik ... ... Do. rafters ...	5,424	.....	5,424	
Ahmednagar ... Jambul rafters	86	.....	86	
Sátára ... ... Junglewood rafters ...	610	.....	610	
Surat ... ... Teak pieces	1,919	.....	2,063	
Surat ... ... Miscellaneous do. ...	144	.....		
Panch Mahâls ... Teak pieces	388	.....	19,126	
Panch Mahâls ... Do. rafters	18,482	.....		
Panch Mahâls ... Junglewood pieces ...	256	.....		
Total Balance ...	.....	.....	43,811	.....
Received from the Forests in Depôts.				
Teak logs and rafters	413,849	19,700 Khs.		
Do. pieces	108,907	5,372		
Do. beams	12,714	.....		
Jambul rafters	15,947	.....		
Junglewood pieces	39,868	.....		
Do. rafters	8,616	.....		
Sadada	198	117		
Haladwan	1	119		
Beo	.....	120		
Kheir	158	194		
Tanach	.....	2		
Sisam	948	43		Cubic ft.
Miscellaneous pieces	2,104	.....		19,700 Khs.
Kanti	127	.....	603,437	5,967

Particulars.	Number or Quantity.	Cubic Feet.	Total of each Head. Number or Quantity.	Total of each Head. Cubic Feet.
Sold locally.				
Teak logs and rafters	367,482	19,700 Khs.		
Do. pieces	124,663	1,227		
Do. beams	12,094	.....		
Jambul rafters	16,010	.....		
Junglewood rafters	6,337	.....		
Do. pieces	15,790	.....		
Sadada	9	117		
Haladwan	.....	119		
Beo	.....	120		
Kheir	81	194		
Tanach	.....	2		
Sisam	948	43		
Miscellaneous pieces	58	.....	5,43,472	C. ft. 19,700 Khs. 1,822
Sold from Depôt.				
Junglewood rafters	745	.....	745	
Free Grant.				
Teak logs and rafters	58,126	.....	58,126	
Used by the Department.				
Junglewood rafters.	106	.....	106	
Lost or written off.				
Teak logs and rafters	67	.....		
Jambul rafters	23	.....	90	
Balance at the close of the year.			5,92,539	C. ft. 19,700 Khs. 1,822
North Thána ... Junglewood pieces ...	120	....	120	
South Thána Do. ...	24,063	.....	24,063	
West Khándesh ... Teak pieces	576	.....		
West Khándesh ... Miscellaneous pieces ...	1,612	.....	2,188	

FORM No. 56—*continued.*

Particulars.	Number or Quantity.	Cubic feet.	Total of each Head. Number or Quantity.	Total of each Head. Cubic feet.	Particulars.	Number or Quantity.	Cubic feet.	Total of each Head. Number or Quantity.	Total of each Head. Cubic feet.
					BAMBOOS.				
Balance at commencement of the year.					*Sold locally.*				
Total Balance ...	.....	.....	.....	.....	Bamboos	603	.....		
					Do. ... ... Head-loads ...	122	.....	725	.....
Received from the Forests in Depôt.					*Used by the Department.*				
Bamboos	2,391				Bamboos ... ... Head-loads ...	20	.....	20	.....
Do. ... ... Head-loads ...	142		2,533					745	.....
					Balance at the close of the year.				
					Sátára ... ... Bamboos ...	558	.....		
					Surat ... ... do. ...	1,230	.....		
					Total Balance ...			1,788	.....
Total ...	.....	.....	2,533	.....	Total ...	.....	.....	2,533	.....
					OTHER MINOR PRODUCE.				
Balance at commencement of the year.		Khs. m. lbs.		Khs. m. lbs.	*Sold locally.*		Khs. m. lbs.		
North Thána ... ... Ain bark	.....	1 7 0		1 7 0	Ain bark...	.....	1 7 0		
South Thána ... ... Hirda	.....	8 5 16		41 16 19	Bábul ,, ...	.....	0 9 7		
... ... Seed	.....	33 11 3			Hirda	.....	628 10 13½		
West Khándesh ... Teak leaves. Bundles	31	.....	31	... ..	Shikakai	.....	0 11 14		
Ahmednagar ... ... Seed	.....	25 23 26		25 23 26	Palas leaves ... ... Bundles ...	50	.....	50	Khs. m. lbs. 630 10 6½
Poona ... ... Hirda	.....	0 19 0		0 19 0	*Used by the Department.*				
Sátára ... ... ,, ...	.....	141 5 2½		229 1 10½	Seed	.....	403 24 6		
... ... Seed	.....	87 24 8			Hirda	.....	1 6 23		
Panch Mahals ... ... ,, ...	.....	1 21 1		1 21 1	Teak leaves ... ... Bundles ...	31	.....	31	405 3 1
					Supplied to other Department.				
Total Balance ...	.....	.....	31	300 5 6½	Seeds	.....	0 13 10	.....	0 13 10

Received from the Forests in Depôt.				
Bábul bark	.....	0 9 7		
Hirda	.....	576 20 6		
Seed	.....	399 7 17½		
Shikakai	.....	0 11 14		
Palas leaves ... ... Bundles ...	50	.....		
Grass ... ... Bundles ...	8,100	.....		
			8,150	976 20 16½
Total ...	.....	.....	8,181	1,276 25 17

Lost or written off.				
Hirda	.....	76 17 0		
Grass ... ... Bundles ...	8,100	.....		
			8,100	76 17 0
			8,181	1,112 15 17½
Balance at the close of the year.				
South Thána ... ... Hirda	.....	0 10 0		42 10 1
South Thána ... ... Seed	.....	42 0 1		
Násik ... ... Hirda	.....	1 5 10		1 5 10
Ahmednagar ... ... Seed	.....	53 7 10		53 7 10
Sátára ... ... Hirda	.....	19 0 6		65 0 14
Sátára ... ... Seed	.....	46 0 8		
Panch Maháls ... ... Do.	.....	2 14 20½		2 14 20½
Total Balance ...	.....	.....		164 9 27½
Total ...	.....	.....	8,181	1,276 25 17

Dated Poona, 31st October 1890.

A. T. SHUTTLEWORTH,
Conservator of Forests, Northern Circle.

FORM No. 57.

FOREST DEPARTMENT, BOMBAY, NORTHERN CIRCLE.

Abstract showing the Value of Timber and other Produce at Sale Depôts for the year 1889-90.

Description of Timber and other Produce.	On hand at commencement of the year.			On hand at close of the year.			Difference in value.		Remarks.
	No.	Khandis.	Value.	No.	Khandis.	Value.	In favour of the year.	Against the year.	
			Rs.			Rs.	Rs.	Rs.	
North Thána Division.									
Teak pieces	2,204	.....	2,000	...	.....	...	...	...	
Junglewood	...	.....	..	120	.....	10	...	...	
Firewood	...	35	17	...	.....	...	...	..	
Ain bark	...	1¼	1	...	.....	...	...	...	
Total ...	...	.....	2,018	...	.....	10	...	2,008	
South Thána Division.									
Teak pieces	...	.....	...	24,063	.....	8,200	...	...	
Firewood	...	.....	...	...	6,904 0 0				
		K. m. lbs.							
Hirda nuts	...	8 5 16	136	...	0 10 0	...	...	...	
Miscellaneous seeds... ...	...	33 11 3	...	...	42 0 1	...	...	...	
Total ...	...	.....	136	...	.....	8,200	8,064	...	
East Khándesh Division.									
		K. m. lbs.			K. m. lbs.				
Seeds	...	10 14 1	...	...	7 21 11	...	...	...	
Total ...	...	.....	...	...	.....	...	...	...	
West Khándesh Division.									
Teak logs	1,767			...	.....	...	...	...	
Do. rafters	7,804	.....	5,163	...	.....	...	...	...	
Do. pieces	4,737			576	.....	50	...	...	
Miscellaneous pieces ...	...	.....	...	1,612	.....	80	...	...	
		Cub. ft.			Cub. ft.				
Fuel	...	230,425	4,608	...	7,000	20	...	...	
Teak leaves ... Bundles.	31	.....	2	...	.....	...	...	...	Used in building.
Total ...	...	.....	9,773	...	.....	150	...	9,623	
Násik Division.									
Teak rafters	30	.....	1,627	40	.....	14	...	...	
	5,394	.....							
		Cub. ft.			Cub. ft.				
Firewood	...	1,000	800	...	1,000	1,513	...	...	
		27,406			26,774				
					K. m. lbs.				
Hirda nuts	...	.....	...	...	1 5 10	35	...	...	
Total ...	...	.....	2,427	...	.....	1,562	...	865	
Ahmednagar Division.									
		K. m. lbs.			K. m. lbs.				
Seed	...	25 23 26	...	...	53 7 10	...	...	...	
Jámbul rafters	86	.....	3	...	.....	...	...	...	
					Khandis.				
Firewood	...	.....	...	...	1,439	48	...	...	
Total ...	...	.....	3	...	.....	48	45	..	

FORM No. 57—*continued.*

Description of Timber and other Produce.	On hand at commencement of the year.			On hand at close of the year.			Difference in value.		Remarks.
	No.	Khandis.	Value.	No.	Khandis.	Value.	In favour of the year.	Against the year.	
			Rs.			Rs.	Rs.	Rs.	
Poona Division.									
Hirda	...	0 19 0	10	...	.....	...	...	...	
Firewood	...	.....	...	...	Cub. ft. 850	9	...	...	
Total ...	...	.....	10	...	.....	9	...	1	
Sátára Division.									
Teak trees	4	.....	5	1	.....	2	...	...	
Junglewood rafters	611	.....	125	2,838	.....	350	...	...	
		K. m. lbs.							
Firewood	...	225 14 0	200	...	.....	...	...	...	
Charcoal	...	0 8 0	4	...	.....	...	...	...	
Bullock loads of firewood ...	...	.....	...	24	.....	5	...	...	
Head-loads do. ...	...	.....	...	174	.....	4	...	...	
Bamboos	...	.....	...	558	.....	14	...	...	
		K. m. lbs.			K. m. lbs.				
Hirda	...	141 5 2½	500	...	19 0 6	10	...	...	
Seed	...	87 24 8	...	...	46 0 8	...	...	...	
Total ...	...	.....	834	...	.....	885	51	...	
Sholápur Division.									
		Cub. ft.							
Firewood	...	1,454	39	...	.....	...	...	39	
Surat Division.									
					Khandis.				
Teak logs	...	.....	...	...	4,145	6,000	...	...	
Do. pieces	2,063	.....	1,200	15,048	.....	6,900	...	...	
Bamboos	134	.....	2	1,230	.....	15	...	...	
Miscellaneous	...	.....	...	578	.....	1,000	...	...	
Teak knees	...	.....	...	79	.....	40	...	...	
Khair pieces	...	.....	...	77	.....	150	...	...	
Teak disks	...	.....	...	5	.....	1	...	...	
Junglewood pieces	...	.....	...	201	.....	100	...	...	
Sadada	...	.....	...	189	.....	180	...	...	
Kanti	...	.....	...	127	.....	123	...	...	
Haladwan	...	.....	...	1	.....	1	...	...	
Total ...	...	.....	1,202	...	.....	68,510	67,308	...	
Panch Mahál Division.									
Teak pieces and poles ...	388	.....	250	...	.....	...	...	...	
Teak rafters	18,482	.....	800	...	.....	...	...	...	
Junglewood pieces	256	.....	10	...	.....	...	...	...	
		Cub. ft.							
Firewood	...	151,296	2,000	...	.....	...	...	...	
		K. m. lbs.			K. m. lbs.				
Seeds	...	1 21 12	50	...	2 24 20½	80	...	...	
Total ...	...	.....	3,110	...	.....	80	...	3,030	

Net difference in favour of the year Rs. 59,902.

A. T. SHUTTLEWORTH,
Conservator of Forests, Northern Circle.

Dated Poona, 31st October 1890.

FORM No. 57 A.

FOREST DEPARTMENT, BOMBAY, NORTHERN CIRCLE.

Abstract showing the Value of Live and Dead Stock for the year 1889-90.

Description of Live and Dead Stock.	On hand at commencement of the year.		On hand at close of the year.		Difference in Value.		Remarks.
	Number.	Value.	Number.	Value.	In favor of the year.	Against the year.	
North Thána.		Rs.		Rs.	Rs.	Rs.	
Parol bungalow	1	1,200	1	1,200	...	...	
Náka-house at Mándvi	1	250	1	250	...	...	
Do. at Mánikpur	1	603	1	603	...	...	
Forest stations	38	570	38	570	...	...	
Do. posts	82	840	82	840	...	...	
Office tent	1	273	1	273	...	...	
Do.	...	...	1	433	...	...	
Small rawties	2	188	2	188	...	...	
Great-coats	226	1,359	226	1,359	...	...	
Tools, plant and office furniture ...	...	2,586	...	2,626	...	...	
Total ...	...	7,869	...	8,342	473	...	
South Thána.							
Office tent	1	273	1	273	...	...	
Do.	...	...	1	433	...	...	
Small rawties	2	186	2	186	...	...	
Great-coats	263	1,713	263	1,713	...	...	
Tools, plant and office furniture ...	...	808	...	910	...	...	
Total ...	...	2,980	...	3,515	535	...	
East Khándesh.							
Office tent	1	248	1	248	...	...	
Great-coats	192	1,254	192	1,254	...	...	
Tools, plant and office furniture ...	...	648	...	663	...	...	
Total ...	...	2,150	...	2,165	15	...	
West Khándesh.							
Office tent	1	387	1	387	...	...	
Great-coats	219	1,428	219	1,428	...	...	
Cabul pál	...	...	1	126	...	...	
Tools, plant and office furniture ...	...	4,289	...	5,322	...	...	
Total ...	...	6,104	...	7,263	1,159	...	
Násik.							
Office tents	2	300	2	300	...	...	
Great-coats	592	1,976	592	1,976	...	...	
Tools, plant and office furniture ...	...	258	...	258	...	...	
Total ...	..	2,534	...	2,534	...	...	
Ahmednagar.							
Sleeping pál 12′ × 12′, double fly ...	1	246	1	246	...	...	
Office room, Range Forest Officer, Karjat	1	214	1	214	...	...	
Hirda Depôt, Singanvadi	1	25	1	25	...	...	
Forest rest-houses	3	90	3	90	...	...	
Great-coats	208	1,357	208	1,357	...	...	
Tools, plant and office furniture ...	...	986	...	986	...	...	
Total ...	...	2,918	...	2,918	...	...	

FORM No. 57 A—*continued.*

Description of Live and Dead Stock.	On hand at commencement of the year.		On hand at close of the year.		Difference in Value.		Remarks.
	Number.	Value.	Number.	Value.	In favor of the year.	Against the year.	
Poona.		Rs.		Rs.	Rs.	Rs.	
Office tent	1	273	1	273	...	...	
Range Forest Officer's offices ...	5	7,752	5	7,752	...	...	
Great-coats	1,371	3,655	1,371	3,655	...	...	
Tools, plant and office furniture ...	...	410	...	440	...	...	
Total ...	...	12,090	...	12,120	30	...	
Sátára.							
Bungalow at Málcolmpeth ...	1	700	1	700	...	...	
Pál with double fly	1	245	1	245	...	...	
Great-coats	244	1,708	244	1,708	...	...	
Tools, plant and office furniture ...	...	825	...	825	...	...	
Total ...	...	3,478	...	3,478	...	...	
Sholápur.							
Office tent	1	100	1	100	...	...	
Do.	...	...	1	387	...	...	
Great-coats	119	777	119	777	...	...	
Tools, plant and office furniture ...	...	231	...	231	...	...	
Total ...	...	1,108	...	1,495	387	...	
Surat.							
Office tent, 12 feet	1	246	1	246	...	...	
Andhátri bungalow	1	291	1	291	...	...	
Dhadahvada do.	1	80	1	80	...	...	
Tárápur do.	1	100	1	100	...	...	
Large Waghai do.	1	1,099	2	1,099	...	...	
Small do. do.	1						
Large Pimpri do.	1	499	1	499	...	...	
Do. Garvi do.	1	1,012	1	1,012	...	...	
Small do. do.	1	288	1	288	...	...	
Great-coats	73	484	73	484	...	...	
Tools, plant and office furniture ...	...	2,204	...	2,317	...	...	
Total ...	...	6,303	...	6,416	113	...	
Panch Mahál.							
Rest-houses and depôts	34	2,410	34	2,410	...	...	
Bungalow	1	8,200	1	8,200	...	...	
Office tent	1	273	1	273	...	...	
Great-coats	110	717	110	717	...	...	
Tools, plant and office furniture ...	...	924	...	966	...	...	
Total ...	...	12,524	...	12,566	42	...	
Working Plans.							
Office tent	1	285	1	285	...	...	
Tools, plant and office furniture ...	...	1,086	...	1,086	...	...	
Total ...	...	1,371	...	1,371	...	...	

A. T. SHUTTLEWORTH,
Conservator of Forests, Northern Circle.

Dated Poona, 31st October 1890.

FORM No. 58.

FOREST DEPARTMENT, BOMBAY, NORTHERN CIRCLE.

Summary of Revenue and Expenditure of the different Divisions during the year 1889-90.

Budget Heads.	Direction.	North Thána Division.	South Thána Division.	East Khándesh Division.	West Khándesh Division.	Násik Division.	Ahmednagar Division.	Poona Division.	Sátára Division.	Sholápur Division.	Surat Division.	Panch Mahâls Division.	Working-Plans Division.	Total.	Budget Estimates.
REVENUE.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
I.—Timber and other produce removed from the Forests by Government Agency—															
a. Timber	....	2,449 6 0	5,522 8 0	9,584 8 0	33,365 8 0	4,140 5 11	6,967 6 9	25,595 15 0	14,911 13 11	270 13 0	31,522 6 0	440 10 6	....	1,84,771 5 1	1,59,500 0 0
b. Firewood and charcoal	....	401 11 6	1,762 4 0	12,249 8 0	7,245 15 6	3,870 14 3	1,216 3 6	11,094 9 0	2,264 15 3	1,766 14 6	165 12 0	2,892 0 0	....	44,980 11 6	36,500 0 0
c. Bámbus	....	....	....	....	....	....	....	....	1 7 9	....	3 0 0	....	....	4 7 9	.. ..
d. Sandalwood	....	....	....	....	....	....	....	....	....	2 8 0	....	....	....	2 8 0	....
e. Grass and other minor produce	....	1,371 7 6	1,656 9 0	....	....	....	4,926 0 5	3,197 7 8	10,142 5 7	37 0 0	19 1 9	....	....	21,349 15 11	29,000 0 0
II.—Timber and other produce removed from the Forests by consumers or purchasers—															
a. Timber	....	2,17,318 11 8	1,67,517 13 4	4,784 6 0	11,039 14 0	13,438 14 10	188 13 1	797 7 6	2,679 9 3	59 11 3	24,342 13 8	47,847 15 11	....	4,90,016 2 6	4,58,000 0 0
b. Firewood and charcoal	....	7,854 15 3	1,354 2 6	8,400 1 6	3,119 1 0	1,474 7 7	742 8 11	2,415 1 3	395 4 1	127 5 9	295 10 0	949 2 3	....	27,127 12 1	22,000 0 0
c. Bámbus	....	7,293 13 4	4,196 4 4	3,637 10 2	2,882 4 7	3,838 6 8	263 3 0	940 4 8	241 3 0	....	8,900 12 9	702 14 11	....	32,896 13 5	43,500 0 0
d. Grazing and fodder grass	....	14,443 8 0	6,039 13 0	45,047 0 10	78,781 3 9	55,204 12 8	26,040 6 5	51,022 10 6	41,911 15 11	16,710 8 11	656 13 0	6,178 9 0	....	3,42,037 6 0	2,93,500 0 0
e. Other minor produce	....	4,952 13 0	3,137 3 3	901 4 6	12,459 4 3	4,524 11 3	1,170 1 4	1,994 8 5	3,062 8 7	320 13 0	1,038 3 10	158 9 11	....	33,720 1 4	27,500 0 0
III.—Confiscated, drift and waif wood	....	2,708 4 2	868 0 10	130 12 2	1,504 9 9	235 9 10	60 2 2	244 12 5	99 15 5	15 1 3	385 9 5	39 3 7	....	6,292 1 0	2,500 0 0
IV.—Revenue from Forests not managed by Government—															
a. Duty on foreign timber and other forest produce	....	....	....	12,385 15 9	15,050 15 9	63 5 3	....	....	....	....	....	....	....	27,500 4 9	31,500 0 0
b. Revenue from shared and private forests	....	1,567 10 1	736 12 8	....	....	....	....	391 4 10	....	....	1 0 0	877 8 0	....	3,574 3 7	4,000 0 0
V.—Miscellaneous—															
a. Fines and forfeitures	....	150 1 0	5,682 8 4	5 0 0	1 8 0	86 13 9	....	169 8 9	6 7 5	27 8 0	.....	83 1 1	....	6,212 8 4	4,000 0 0
b. Refunds	....	31 7 4	438 0 3	27 9 11	14 10 0	7 13 5	2 14 5	26 11 8	12 1 4	2 5 7	....	....	....	563 9 11	....
c. Other sources	19 3 0	6,481 8 0	907 13 1	815 0 9	1,388 9 5	2,221 8 4	781 2 11	71 1 5	128 9 10	5 5 0	762 15 6	957 8 11	....	14,540 6 2	15,500 0 0
Total, Revenue	19 3 0	2,67,025 4 10	1,99,819 12 7	97,968 13 7	1,66,853 8 0	89,107 11 9	42,358 14 11	97,961 7 1	75,858 5 4	19,345 14 3	68,694 1 11	61,127 4 1	....	11,85,540 5 4	11,27,000 0 0
EXPENDITURE.															
A.—CONSERVANCY AND WORKS.															
I.—Timber and other produce removed from the Forests by Government Agency—															
a. Timber	....	456 12 9	6,558 3 1	1,078 6 0	2,843 13 8	472 0 5	1,442 7 0	3,190 10 0	1,891 15 6	21 6 0	11,534 12 4	263 6 0	....	29,753 12 7	35,700 0 0
b. Firewood and charcoal	....	28 12 0	95 5 4	2,713 0 6	1,222 13 0	976 5 8	281 7 3	2,576 2 3	1,400 10 9	165 13 4	....	187 2 0	....	9,647 8 1	9,950 0 0
c. Bámbus	....	....	....	....	....	....	....	....	2 14 6	....	....	....	....	2 14 6	....
d. Sandalwood	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
e. Grass and other minor produce	....	497 14 6	625 0 8	....	....	44 13 6	787 6 0	577 15 6	3,252 5 3	1 8 0	30 14 0	....	....	5,817 13 5	11,100 0 0
II.—Timber and other produce removed from the Forests by consumers or purchasers	....	6,738 4 10	3,035 9 9	4,681 3 1	4,872 10 3	1,718 4 4	202 10 6	1,863 6 2	2,444 2 9	....	2,365 5 5	690 11 5	....	28,612 4 6	27,450 0 0
III.—Confiscated, drift and waif wood	....	31 8 9	14 3 0	13 4 5	10 9 0	10 7 0	0 7 0	1 8 0	1 4 0	0 12 0	3 7 2	1 12 0	....	89 2 4	100 0 0

IV.—Revenue from Forests not managed by Government—															
a. Duty on foreign timber and other forest produce	....	....	....	....	172 11 11	....	....	....	....	....	....	....	....	172 11 11	....
b. Revenue from shared and private forests	....	....	....	10 11 6	....	....	....	233 9 7	....	....	....	....	....	244 5 1	200 0 0
V.—Rent of Leased Forests and payments to Shareholders in Forests managed by Government	....	....	893 11 11	....	....	218 15 0	2 12 0	2,119 4 9	3,310 14 2	....	13,023 4 10	....	....	19,568 14 8	18,350 0 0
VI.—Live Stock, Stores, Tools and Plant—															
a. Purchase of Cattle	....	....	....	4 8 0	....	....	....	....	....	....	....	....	....	4 8 0	....
b. Feed and keep of Cattle	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
c. Stores, Tools and Plant	....	587 13 6	166 8 0	10 8 0	145 2 0	5 15 0	585 10 0	540 5 0	10 15 3	18 0 0	2 8 0	16 14 0	....	2,090 2 9	50 0 0
VII.—Communications and Buildings—															
a. Roads and Bridges	....	....	....	....	....	....	....	....	70 1 3	....	717 14 7	....	....	787 15 10	1,100 0 0
b. Buildings	....	515 1 0	352 13 6	128 3 0	943 0 8	333 1 0	....	120 0 9	41 4 6	....	457 15 2	36 0 9	....	2,927 8 4	5,850 0 0
c. Other Works	....	....	....	....	12 0 0	....	....	....	....	....	....	16 10 8	....	28 10 8	50 0 0
VIII.—Demarcation, Improvement and Extension of Forests—															
a. Demarcation	....	2,735 3 9	825 4 3	178 14 11	5,925 14 3	2,831 11 10	1,952 8 8	4,619 7 5	1,119 11 8	656 9 6	114 8 0	915 5 11	....	21,875 4 2	28,200 0 0
b. Compensation for land and Rights	....	1,262 0 0	7,490 12 2	....	....	....	4,865 12 4	....	72 8 0	....	40 0 0	72 9 0	....	13,803 9 6	27,900 0 0
c. Surveys and Working Plans	669 14 0	5,220 4 2	17,326 1 3	..	414 15 4	551 10 10	498 14 0	12,000 14 5	3,391 12 8	345 10 5	....	461 0 3	17,159 14 0	58,040 15 4	70,050 0 0
d. Plantations	27 0 9	847 5 8	1,679 7 10	12 11 0	831 10 10	2,463 9 3	1,287 10 7	1,164 3 0	539 4 11	2,174 10 6	1 0 0	27 13 0	....	11,056 7 4	13,000 0 0
e. Protection from Fire	....	1,175 3 9	682 10 3	70 1 6	137 15 9	14 2 3	....	74 5 6	7 13 0	....	2 0 0	....	....	2,164 4 0	3,000 0 0
f. Other Works	....	591 1 0	1,097 3 6	5 4 0	....	133 15 6	444 11 3	1,080 4 9	199 10 6	4,454 5 0	....	....	....	8,006 7 6	2,850 0 0
IX.—Miscellaneous—															
a. Refunds	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
b. Law Charges	....	....	111 10 4	....	0 2 9	....	....	91 3 3	....	....	12 0 0	....	....	215 0 4	....
c. Other Charges	23 13 6	344 13 9	156 5 0	96 7 7	965 7 3	404 9 8	104 7 3	149 12 11	1,074 12 9	6 10 4	259 9 10	21 8 7	....	3,508 6 5	2,600 0 0
Total, A. Conservancy and Works	720 12 3	21,032 3 5	41,110 13 10	9,003 3 6	18,498 14 6	10,179 9 3	12,456 11 10	30,403 1 3	18,832 1 5	7,845 5 1	28,565 3 4	2,710 13 7	17,159 14 0	2,18,518 11 3	2,58,400 0 0
B.—Establishments.															
I.—Salaries—															
a. Conservators	18,000 0 0	....	....	....	....	....	....	....	....	....	....	....	....	18,000 0 0	18,000 0 0
b. Superior Officers	....	8,704 14 2	9,627 5 5	10,868 5 8	8,308 0 0	11,400 0 0	8,707 10 2	14,008 13 11	10,475 8 7	2,750 0 0	10,966 10 8	6,600 0 0	....	1,02,417 4 7	96,000 0 0
c. Subordinate Forest and Depôt Establishments	....	25,082 5 11	27,554 4 11	22,853 15 6	21,764 1 1	32,391 2 11	23,360 11 0	34,656 14 3	28,247 13 1	12,240 9 2	8,347 8 7	12,638 8 9	....	2,48,537 15 2	2,55,900 0 0
d. Office Establishments	6,748 10 6	3,175 11 1	3,171 8 4	2,196 0 0	2,552 10 7	2,529 15 9	2,064 13 11	2,502 2 0	2,546 13 10	1,800 12 11	2,125 13 9	1,961 2 9	....	33,376 3 5	33,550 0 0
e. Deputation and Special allowances	451 0 0	....	....	....	....	....	....	....	....	....	....	....	....	451 0 0	1,750 0 0
II.—Travelling Allowances—															
a. Conservators	2,400 0 0	....	....	....	....	....	....	....	....	....	....	....	....	2,400 0 0	2,400 0 0
b. Superior Officers	....	2,862 8 1	3,921 1 2	1,800 0 0	2,366 2 1	2,550 15 0	1,971 4 7	2,877 7 3	2,469 15 1	964 3 8	1,795 2 7	1,800 0 0	....	25,378 12 4	25,700 0 0
c. Subordinate Forest and Depôt Establishments	....	1,011 12 1	1,102 10 3	1,683 11 10	1,340 15 0	1,900 1 4	1,520 5 0	1,583 13 7	1,853 15 2	929 7 0	732 9 1	666 15 9	....	14,326 7 1	14,400 0 0
d. Office Establishments	2,051 14 4	990 15 10	1,064 2 1	750 2 0	842 12 8	872 4 1	775 11 1	975 10 4	893 1 1	749 12 5	775 1 11	652 1 1	....	11,398 8 11	11,050 0 0
III.—Contingencies—															
a. Stationery	9 10 6	365 7 3	351 8 8	365 10 0	410 8 7	483 1 8	365 4 4	387 8 8	456 9 10	209 4 4	214 15 1	209 9 7	....	3,829 2 6	4,150 0 0
b. Carriage of Tents and Records	523 12 8	362 1 3	291 10 6	164 4 0	250 5 6	408 11 0	261 0 0	290 0 6	278 9 0	109 12 0	129 8 9	155 0 0	....	3,22 411 2	3,2 0 0 0
c. Rents, Rates and Taxes	480 0 0	210 14 8	246 6 5	275 0 2	393 9 11	150 1 7	252 0 0	252 0 0	51 13 7	54 0 0	100 0 0	26 0 0	....	2,491 14 4	2,450 0 0
d. Pay of Police Guards	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
e. Official Postage	463 1 6	755 12 6	797 12 0	613 7 6	650 11 6	1,040 5 6	607 10 0	799 14 6	785 12 0	368 6 6	240 4 6	261 9 0	....	7,384 11 0	6,800 0 0
f. Sundries	225 10 8	2,102 10 4	708 5 5	1 049 5 5	2,335 6 8	313 14 9	937 6 0	309 1 6	1,283 8 9	1,491 3 2	373 12 7	707 6 8	....	11,837 11 11	19,200 0 0
Payments to officers of other Provinces	[illegible]	....	....	....	....	....	....	....	....	....	....	....	....	1,784 1 5	..
To a, B.—Establishments	3,137 13	45,625 2 0	48,836 11 2	42,620 1 1	41,215 3 7	54,040 9 7	40,823 12 1	58,643 6 6	49,348 8 0	21,667 7 2	25,801 7 6	25,078 5 7	....	4,86,838 7 10	4,94,600 0 0
Grand Total of Expenditure	3,858 9 1	66,657 5 5	89,947 9 0	51,623 4 7	59,714 2 1	64,220 2 10	53,280 7 11	89,046 7 9	68,180 9 5	29,512 12	54,366 10 10	27,789 3 2	....	7,05,357 3 1	7,53,000 0 0

No. $\frac{F}{14830}$.

Forwarded to the Conservator of Forests, Northern Circle, under Section 238 of the Forest Department Code.

Accountant General's Office,
Bombay, 12th August 1890.

R. LOGAN,
Accountant General.

FORM No. 59.

Forest Department, Bombay, Northern Circle.

Account Current for the year 1889-90.

	Rs. a. p.	Rs. a. p.		Rs. a. p.	Rs. a. p.
To Cash Balance	.....	2,459 14 1	By 3. Refunds and Drawbacks—		
„ VIII.—Assessed Taxes—Income Tax—			Refunds—Forest	.....	1,191 10 5
Deductions by Government from			„ 11. Forest (as per Annual Summary Form.		
Salaries and Pensions ...	.....	4,607 2 10	No. 58)	.....	7,05,357 3 1
„ IX.—Forest (as per Annual Summary			„ Revenue Deposits—Forests	.....	39,015 1 1
Form No. 58)	.....	11,85,540 5 4	„ Advances Recoverable—		
„ XII.—Interest—Interest on Arrears of			Forest Advances	4,24,058 3 3	
Revenue	.....	34 13 5	Objection Book Advances	1,576 3 7	4,25,634 6 10
„ XXIII.—Stationery and Printing—			Tentage Advances	.....	
Other Press Receipts—			„ Forest Remittances—		
Government Central Press ...	.....	12 7 3	Remittances to Treasuries	12,27,190 4 6	
„ XXIII.—Stationery and Printing—			Inter-divisional Transfers	78,971 11 7	13,07,283 2 1
Stationery Receipts—			Inter-departmental Transfers... ...	1,121 2 0	
Sale-proceeds of Stationery			„ Cheques and Bills—		
Boxes	.....	2 5 6	Forest Cheques (cancelled)	.....	1,092 7 6
„ XVI.—Law and Justice—			„ Cash Recoveries	.....	13,996 2 10
General Fees, Fines and Forfeiture—			„ Suspense Account	.....	20 12 0
Magisterial Fines ...	.....	1 4 0	„ Accounts Current—		
„ XIX.—Education—			Accounts between Bombay and Public		
Miscellaneous—			Works Department, Bombay (Ordinary		
Sale-proceeds of Books (Local).	.....	39 0 0	Branches)—		
„ XXXII.—Civil Works in charge Civil			IV—Items adjustable by Public		
Officers—			Works Department—		
Road-side Trees Receipt ...	.....	704 15 6	Payments on account of		
„ Revenue Deposits (Forests)	.....	44,384 1 0	Lands taken up for public		
„ Cheques and Bills—(Departmental Cheques)—			purposes	7 14 3	7 14 3
Forests...	.....	7,66,716 0 4	Inter-departmental charges	1,067 8 7	1,067 8 7
			Account between Bombay and Marine—		
			IV.—Miscellaneous	1,120 10 0	1,120 10 0
			Account between Bombay and Central Provinces, Bombay—		
			III.—Items adjustable by Central Provinces—		
			Advances Recoverable ...	450 0 0	450 0 0
			„ Bombay Uncovenanted Service Family Pension Fund, Widows Branch	.....	54 2 0

„ Advances Recoverable—							
Forest Advances	4,23,606	2	4	4,25,769	0	7	
Objection Book Advances	1,962	14	3				
Tentage Advances	200	0	0				
„ Cash Recoveries	.....			13,996	2	10	
„ Forest Remittances—							
Remittances to Treasuries	2,439	10	2	49,527	1	1	
Inter-divisional Transfers	44,738	1	4				
Inter-departmental Transfers	2,349	5	7				
„ Bombay Uncovenanted Service Family Pension Fund, Widows Branch	.....			1,355	15	11	
„ Accounts Current—							
Account between Bombay and Public Works Department, Bombay—							
IV.—Payments into Treasury [by Civil Officers on account of Public Works Department	.....			652	11	5	
„ Account between India and Bombay—							
III.—Items adjustable by India—							
Bengal Military Orphan Fund ...	.....			181	11	7	
Bengal Military Fund ...	.....			589	0	0	
Bengal Uncovenated Service Family Pension Fund ...	.....			139	11	2	
„ Account between Bombay and Marine, Bombay—							
IV.—Miscellaneous	.....			1,120	10	0	
„ Suspense Account	.....			20	12	0	
Grand Total ...	.....			24,97,855	1	10	

Closing Balance ...	.....	1,564	1 2
Grand Total ...	.....	24,97,855	1 10

No. $\frac{F.}{14828}$.

Forwarded to the Conservator of Forests, Northern Circle, under Section 238 of the Forest Department Code.

Accountant General's Office,
Bombay, 12th August 1890.

R. LOGAN,
Accountant General.

FORM No. 60.

FOREST DEPARTMENT, BOMBAY, NORTHERN CIRCLE.

Revenue received and Outstandings on account of Revenue during 1889-90.

Division.	Particulars.	Outstandings at commencement of year.	Value of Sales and other Revenue during year.	Total.	Amount realized during year.	Balance due to the Department at end of year.	Remarks.
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
North Thána ...	*I.—Timber and other produce removed from the Forests by Government Agency—*						
	a. Timber	.....	2,449 6 0	2,449 6 0	2,449 6 0	.....	
	b. Firewood and charcoal	.....	401 11 6	401 11 6	401 11 6	.....	
	c. Bamboos	.....	.....	.....	.....	.....	
	d. Sandalwood...	.....	.....	.....	.....	.....	
	e. Grass and other minor produce ...	.....	1,371 7 6	1,371 7 6	1,371 7 6	.....	
	II.—Timber and other produce removed from the Forests by consumers or purchasers—						
	a. Timber	*1,601 0 0	2,17,318 11 8	2,17,318 11 8	2,17,318 11 8	.....	* Written off.
	b. Firewood and charcoal	.....	7,854 15 3	7,854 15 3	7,854 15 3	.....	
	c. Bamboos	.....	7,293 13 4	7,293 13 4	7,293 13 4	.....	
	d. Grazing and fodder grass ...	.....	14,443 8 0	14,443 8 0	14,443 8 0	.....	
	e. Other minor produce	32 8 0	4,920 5 0	4,952 13 0	4,952 13 0	.....	
	III.—Confiscated, drift and waif wood ...	.....	2,708 4 2	2,708 4 2	2,708 4 2	.....	
	Total ...	32 8 0	2,58,762 2 5	2,58,794 10 5	2,58,794 10 5	.....	
South Thána ...	*I.—Timber and other produce removed from the Forests by Government Agency—*						
	a. Timber	.....	5,522 8 0	5,522 8 0	5,522 8 0	.....	
	b. Firewood and charcoal	.....	1,762 4 0	1,762 4 0	1,762 4 0	.....	
	c. Bamboos	.....	.....	.....	.....	.....	
	d. Sandalwood	.....	.....	.....	.....	.....	
	e. Grass and minor produce ...	†769 4 0	1,656 9 0	1,656 9 0	1,656 9 0	.....	† Written off.
	II.—Timber and other produce removed from the Forests by consumers or purchasers—						
	a. Timber	34,909 3 0	1,32,675 3 4	1,67,584 6 4	1,67,517 13 4	66 9 0	
	b. Firewood and charcoal	.....	1,354 2 6	1,354 2 6	1,354 2 6	.....	
	c. Bamboos	.....	4,196 4 4	4,196 4 4	4,196 4 4	.....	

	d. Grazing and fodder grass ...	.....		6,039	13	0	6,039	13	0	6,039	13	0	.....		
	e. Other minor produce ...	.....		3,137	3	3	3,137	3	3	3,137	3	3	.....		
	III.—Confiscated, drift and waif wood ...	.....		868	0	10	868	0	10	868	0	10	.....		
	Total ...	34,909	3 0	1,57,212	0	3	1,92,121	3	3	1,92,054	10	3	66	9	0
East Khándesh.	*I.—Timber and other produce removed from the Forests by Government Agency—*														
	a. Timber	.....		9,584	8	0	9,584	8	0	9,584	8	0	.....		
	b. Firewood and charcoal	.....		12,249	8	0	12,249	8	0	12,249	8	0	.....		
	c. Bamboos	.....		.....			.....			.....			.....		
	d. Sandalwood	.....		.....			.....			.....			.....		
	e. Grass and other minor produce ...	.....		.....			.....			.....			.....		
	II.—Timber and other produce removed from the Forests by consumers or purchasers—														
	a. Timber	.....		4,784	6	0	4,784	6	0	4,784	6	0	.....		
	b. Firewood and charcoal	.....		8,400	1	6	8,400	1	6	8,400	1	6	.....		
	c. Bamboos	.....		3,637	10	2	3,637	10	2	3,637	10	2	.....		
	d. Grazing and fodder grass ...	13	13 0	45,047	0	10	45,060	13	10	45,047	0	10	13	13	0
	e. Other minor produce	.....		901	4	6	901	4	6	901	4	6	.....		
	III.—Confiscated, drift and waif wood ...	.....		130	12	2	130	12	2	130	12	2	.....		
	Total ...	13	13 0	84,735	3	2	84,749	0	2	84,735	3	2	13	13	0
West Khándesh.	*I.—Timber and other produce removed from the Forests by Government Agency—*														
	a. Timber	.....		33,365	8	0	33,365	8	0	33,365	8	0	.....		
	b. Firewood and charcoal	.....		7,245	15	6	7,245	15	6	7,245	15	6	.....		
	c. Bamboos	.....		.....			.....			.....			.....		
	d. Sandalwood	.....		.....			.....			.....			.....		
	e. Grass and other minor produce ...	.....		.....			.....			.....			.....		
	II.—Timber and other produce removed from the Forests by consumers or purchasers—														
	a. Timber	.....		11,039	14	0	11,039	14	0	11,039	14	0	.....		
	b. Firewood and charcoal	.....		3,119	1	0	3,119	1	0	3,119	1	0	.....		
	c. Bamboos	.....		2,882	4	7	2,882	4	7	2,882	4	7	.....		
	d. Grazing and fodder grass ...	35	13 0	78,745	6	9	78,781	3	9	78,781	3	9	.....		
	e. Other minor produce	.....		12,459	4	3	12,459	4	3	12,459	4	3	.....		
	III.—Confiscated, drift and waif wood ...	.....		1,504	9	9	1,504	9	9	1,504	9	9	.....		
	Total ...	35	13 0	1,50,361	15	10	1,50,397	12	10	1,50,397	12	10	.....		

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FORM No. 60—*continued.*

Division.	Particulars.	Outstandings at commencement of year.	Value of Sales and other Revenue during year.	Total.	Amount realized during year.	Balance due to the Department at end of year.	Remarks.
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
Násik ...	*I.—Timber and other produce removed from the Forest by Government Agency—*						
	a. Timber	2,300 6 6	3,762 8 11	6,062 15 5	4,140 5 11	1,922 9 6	
	b. Firewood and charcoal	13 6 0	3,870 14 3	3,884 4 3	3,870 14 3	13 6 0	
	c. Bamboos	.....	.....	.....	.....	.....	
	d. Sandalwood	.....	.....	.....	.....	.....	
	e. Grass and other minor produce ...	.....	.....	.....	.....	.....	
	II.—Timber and other produce removed from the Forests by consumers or purchasers—						
	a. Timber	.....	13,438 14 10	13,438 14 10	13,438 14 10	.....	
	b. Firewood and charcoal	.....	1,474 7 7	1,474 7 7	1,474 7 7	.....	
	c. Bamboos	.....	3,838 6 8	3,838 6 8	3,838 6 8	.....	
	d. Grazing and fodder grass ...	452 8 0	54,918 12 2	55,371 4 2	55,204 12 8	166 7 6	
	e. Other minor produce	.....	4,544 11 3	4,544 11 3	4,524 11 3	20 0 0	
	III.—Confiscated, drift and waif wood ...	3 4 3	235 9 10	238 14 1	235 9 10	3 4 3	
	Total ...	2,769 8 9	86,084 5 6	88,853 14 3	86,728 3 0	2,125 11 3	
Ahmednagar ...	*I—Timber and other produve removed from the Forests by Government Agency—*						
	a. Timber	28 12 9	6,957 13 6	6,986 10 3	6,967 6 9	19 3 6	
	b. Firewood and charcoal	.....	1,217 4 6	1,217 4 6	1,216 3 6	1 1 0	
	c. Bamboos	.....	.....	.....	.....	.....	
	d. Sandalwood	.....	.....	.....	.....	.....	
	e. Grass and other minor produce ..	.....	4,926 0 5	4,926 0 5	4,926 0 5	.....	
	II.—Timber and other produce removed from the Forests by consumers or purchasers—						
	a. Timber	.....	188 13 1	188 13 1	188 13 1	.....	
	b. Firewood and charcoal	.....	742 8 11	742 8 11	742 8 11	.....	
	c. Bamboos	.....	263 3 0	263 3 0	263 3 0	.....	
	d. Grazing and fodder grass ...	.....	26,064 6 5	26,064 6 5	26,040 6 5	24 0 0	
	e. Other minor produce	.....	1,540 13 4	1,540 13 4	1,170 1 4	370 12 0	
	III.—Confiscated, drift and waif wood ...	.....	60 2 2	60 2 2	60 2 2	.....	
	Total ...	28 12 9	41,961 1 4	41,989 14 1	41,574 13 7	415 0 6	

Poona	*I.—Timber and other produce removed from the Forests by Government Agency—*					
	a. Timber	.....	25,595 15 0	25,595 15 0	25,595 15 0	.....
	b. Firewood and charcoal	.....	11,094 9 0	11,094 9 0	11,094 9 0	.....
	c. Bamboos	.....	.....	.....	.....	.....
	d. Sandalwood	.....	.....	.....	.....	.....
	e. Grass and other minor produce ...	.....	3,197 7 8	3,197 7 8	3,197 7 8	.....
	II.—Timber and other produce removed from the Forests by consumers or purchasers—					
	a. Timber	.....	797 7 6	797 7 6	797 7 6	.....
	b. Firewood and charcoal	.....	2,415 1 3	2,415 1 3	2,415 1 3	.....
	c. Bamboos	.....	940 4 8	940 4 8	940 4 8	.....
	d. Grazing and fodder grass ...	.....	51,022 10 6	51,022 10 6	51,022 10 6	.....
	e. Other minor produce	.....	1,997 4 5	1,997 4 5	1,994 8 5	2 12 0
	III.—Confiscated, drift and waif wood ...	.....	244 12 5	244 12 5	244 12 5	.....
	Total ...	.....	97,305 8 5	97,305 8 5	97,302 12 5	2 12 0
Sátára	*I.—Timber and other produce removed from the Forests by Government Agency—*					
	a. Timber	.....	14,911 13 11	14,911 13 11	14,911 13 11	.....
	b. Firewood and charcoal	.....	2,264 15 3	2,264 15 3	2,264 15 3	.....
	c. Bamboos	.....	1 7 9	1 7 9	1 7 9	.....
	d. Sandalwood	.....	.....	.....	.....	.....
	e. Grass and other minor produce ...	.....	10,142 5 7	10,142 5 7	10,142 5 7	.....
	II.—Timber and other produce removed from the Forests by consumers or purchasers—					
	a. Timber	.....	2,679 9 3	2,679 9 3	2,679 9 3	.....
	b. Firewood and charcoal	.....	395 4 1	395 4 1	395 4 1	.....
	c. Bamboos	.....	241 3 0	241 3 0	241 3 0	.....
	d. Grazing and fodder gross ...	.....	42,558 15 11	42,558 15 11	41,911 15 11	647 0 0
	e. Other minor produce	83 0 0	2,979 8 7	3,062 8 7	3,062 8 7	.....
	III.—Confiscated, drift and waif wood ...	.....	99 15 5	99 15 5	99 15 5	.....
	Total ...	83 0 0	76,275 2 9	76,358 2 9	75,711 2 9	647 0 0

FORM No. 60.—*continued.*

Division.	Particulars.	Outstandings at commencement of year.	Value of Sales and other Revenue during year.	Total.	Amount realized during year.	Balance due to the Department at end of year.	Remarks.
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
Sholápur ...	*I.—Timber and other produce removed from the Forests by Government Agency—*						
	a. Timber	.....	270 13 0	270 13 0	270 13 0	.....	
	b. Firewood and charcoal	.....	1,766 14 6	1,766 14 6	1,766 14 6	.....	
	c. Bamboos	.....	.....	.....	.....	.....	
	d. Sandalwood	.....	2 8 0	2 8 0	2 8 0	.....	
	e. Grass and other minor produce ...	.....	37 0 0	37 0 0	37 0 0	.....	
	II.—Timber and other produce removed from the Forests by consumers or purchasers—						
	a. Timber	.....	59 11 3	59 11 3	59 11 3	.....	
	b. Firewood and charcoal	.....	127 5 9	127 5 9	127 5 9	.....	
	c. Bamboos	.....	.....	.....	.....	.....	
	d. Grazing and fodder grass ..	*60 0 0	16,710 8 11	16,710 14 11	16,710 14 11	.....	* Rs. 59-10-0 written off.
	e. Other minor produce	.....	320 13 0	320 13 0	320 13 0	.....	
	III.—Confiscated, drift and waif wood ...	.....	15 1 3	15 1 3	15 1 3	.....	
	Total ...	0 6 0	19,310 11 8	19,311 1 8	19,311 1 8	.....	
Surat ...	*I.—Timber and other produce removed from the Forests by Government Agency—*						
	a. Timber	1,954 11 9	52,976 12 11	54,931 8 8	31,522 6 0	23,409 2 8	
	b. Firewood and charcoal	.....	165 12 0	165 12 0	165 12 0	.....	
	c. Bamboos	.....	3 0 0	3 0 0	3 0 0	.....	
	d. Sandalwood...	.....	.....	.....	.....	.....	
	e. Grass and other minor produce ...	.....	19 1 9	19 1 9	19 1 9	.....	
	II.—Timber and other produce removed from the Forests by consumers or purchasers—						
	a. Timber	.....	34,542 13 8	34,542 13 8	24,342 13 8	10,200 0 0	
	b. Firewood and charcoal	.....	295 10 0	295 10 0	295 10 0	.....	
	c. Bamboos	.....	8,900 12 9	8,900 12 9	8,900 12 9	.....	
	d. Grazing and fodder grass ...	.....	656 13 0	656 13 0	656 13 0	.....	
	e. Other minor produce	.....	1,038 3 10	1,038 3 10	1,038 3 10	.....	
	III.—Confiscated, drift and waif wood ...	609 13 3	385 9 5	995 6 8	385 9 5	609 13 3	
	Total ...	2,564 9 0	98,984 9 4	1,01,549 2 4	67,330 2 5	34,218 15 11	

Panch Mahals.	*I.—Timber and other produce removed from the Forests by Government Agency—*												
	a. Timber	.....		440	10	6	440	10	6	440	10	6	.....
	b. Firewood and charcoal	.....		2,892	0	0	2,892	0	0	2,892	0	0	.....
	c. Bamboos	.....		.....			.....			.....			.....
	d. Sandalwood	.....		.....			.....			.....			.....
	e. Grass and other minor produce ...	.....		.....			.....			.....			.....
	II.—Timber and other produce removed from the Forests by consumers or purchasers—												
	a. Timber	.....		47,847	15	11	47,847	15	11	47,847	15	11	.....
	b. Firewood and charcoal	.....		949	2	3	949	2	3	949	2	3	.....
	c. Bamboos	.....		702	14	11	702	14	11	702	14	11	.....
	d. Grazing and fodder grass ...	.....		6,178	9	0	6,178	9	0	6,178	9	0	.....
	e. Other minor produce	10	9	0	148	0	11	158	9	11	158	9	11	.....
	III.—Confiscated, drift and waif wood ...	.....		39	3	7	39	3	7	39	3	7	.....
	Total ...	10	9	0	59,198	9	1	59,209	2	1	59,209	2	1	.....
Total Northern Circle ...	*I.—Timber and other produce removed from the Forests by Government Agency—*												
	a. Timber	4,283	15	0	1,55,838	5	9	1,60,122	4	9	1,34,771	5	1	25,350	15	8
	b. Firewood and charcoal	13	6	0	44,931	12	6	44,945	2	6	44,930	11	6	14	7	0
	c. Bamboos	.....			4	7	9	4	7	9	4	7	9	.....		
	d. Sandalwood	.....			2	8	0	2	8	0	2	8	0	.....		
	e. Grass and other minor produce ...	.....			21,349	15	11	21,349	15	11	21,349	15	11	.....		
	II.—Timber and other produce removed from the Forests by consumers or purcasers—												
	a. Timber	34,909	3	0	4,65,373	8	6	5,00,282	11	6	4,90,016	2	6	10,266	9	0
	b. Firewood and charcoal	.....			27,127	12	1	27,127	12	1	27,127	12	1	.....		
	c. Bamboos	.....			32,896	13	5	32,896	13	5	32,896	13	5	.....		
	d. Grazing and fodder grass ...	502	8	0	3,42,386	8	6	3,42,889	0	6	3,42,037	12	0	851	4	6
	e. Other minor produce	126	1	0	33,987	8	4	34,113	9	4	33,720	1	4	393	8	0
	III.—Confiscated, drift and waif wood ...	613	1	6	6,292	1	0	6,905	2	6	6,292	1	0	613	1	6
	Grand Total ...	40,448	2	6	11,30,191	5	9	11,70,639	8	3	11,33,149	10	7	37,489	13	8

Dated Poona, 31st October 1890.

A. T. SHUTTLEWORTH,
Conservator of Forests, Northern Circle.

FORM No. 61.

FOREST DEPARTMENT, BOMBAY, NORTHERN CIRCLE.

Outstandings and Liabilities on account of Contractors and Disbursers for the year 1889-90.

Divisions.	DEPARTMENT DEBTOR.			DEPARTMENT CREDITOR.			BALANCE DUE.		REMARKS.
	At commencement of year.	Recoveries in cash and value of supplies and work done during year.	At close of year.	At commencement of year.	Payments made during the year.	At close of year.	To Department (Outstandings).	By Department (Liabilities).	
Contractors.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
Surat	...	500 0 0	500 0 0	.....	500 0 0	500 0 0	.....	...	
Sátára	...	50 0 0	50 0 0	.....	50 0 0	50 0 0	.....	...	
Total Contractors ...	...	550 0 0	550 0 0	.....	550 0 0	550 0 0	.....	...	
Disbursers.									
North Thána	...	42,229 2 4	42,229 2 4	4 0 0	42,225 2 4	42,229 2 4	.....	...	
South Thána	0 4 0	63,093 10 7	63,093 14 7	455 4 8	62,644 11 9	63,100 0 5	6 1 10	...	
East Khándesh	...	32,704 5 2	32,704 5 2	.....	32,704 5 2	32,704 5 2	.....	...	
West Khándesh	11 8 0	43,632 7 2	43,643 15 2	14 1 7	43,789 13 6	43,803 15 1	159 15 11	...	
Násik	...	46,903 12 4	46,903 12 4	497 0 5	46,419 0 9	46,916 1 2	12 4 10	...	
Ahmednagar	...	36,318 11 10	36,318 11 10	.....	36,557 14 4	36,557 14 4	239 6 0	0 3 6	
Poona	...	51,406 13 9	51,406 13 9	.....	51,406 13 11	51,406 13 11	0 1 0	0 0 10	
Sátára	...	39,692 3 6	39,692 3 6	50 3 0	39,642 0 6	39,692 3 6	.....	...	
Sholápur	...	18,844 4 1	18,844 4 1	2 4 1	18,842 0 0	18,844 4 1	.....	...	
Surat	...	26,579 4 1	26,579 4 1	500 0 0	26,081 3 4	26,581 3 4	1 15 3	...	
Panch Mahals	...	14,991 15 0	14,991 15 0	.....	14,991 15 0	14,991 15 0	... ..	...	
Working Plans	...	1,822 7 10	1,822 7 10	... ..	1,822 7 10	1,822 7 10	.....	...	
Bombay Forest Surveys ...	...	4,837 0 8	4,837 0 8	442 0 0	6,380 10 10	6,822 10 10	1,985 10 2	...	
Total Disbursers ...	11 12 0	4,23,056 2 4	4,23,067 14 4	1,964 13 9	4,23 508 3 3	4,25,473 1 0	2,405 7 0	0 4 4	
Grand Total ...	11 12 0	4,23,606 2 4	4,23,617 14 4	1,964 13 9	4,24,058 3 3	4,26,023 1 0	2,405 7 0	0 4 4	

No. $\frac{F}{1881}$.

Forwarded to the Conservator of Forests, Northern Circle, under Section 238 of the Forest Department Code.

Accountant General's Office,
Bombay, 12th August 1890.

R. LOGAN,
Accountant General.

FORM No. 62.

Forest Department, Bombay, Northern Circle.

Financial Results of the year 1889-90.

Division.	Timber and other Produce removed from the Forests by Government Agency.		Other Revenue.		Formation, Protection, and Improvement of Forests.	Total.		Remarks.
	Receipts.	Charges.	Receipts.	Charges.	Charges.	Receipts.	Charges.	
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
North Thána ...	4,222	3,241	2,62,813	9,028	69,742	2,67,035	82,011	
South Thána ...	8,941	9,081	1,90,828	4,852	88,660	1,99,829	1,02,593	
East Khándesh ...	21,834	4,695	76,135	5,608	44,029	97,969	54,332	
West Khándesh...	40,612	5,421	1,26,242	6,410	51,946	1,66,854	63,777	
Násik	8,011	2,505	81,097	2,741	61,683	89,108	66,929	
Ahmednagar ...	13,110	2,964	29,249	655	51,015	42,359	54,634	
Poona	39,888	8,308	58,073	4,061	79,385	97,961	91,754	
Sátára	27,320	9,106	48,538	5,003	56,779	75,858	70,888	
Sholápur	2,077	641	17,269	451	29,775	19,346	30,867	
Surat	31,710	18,980	36,384	9,783	28,312	68,094	57,075	
Panch Maháls ...	3,333	1,354	57,794	1,595	27,548	61,127	30,497	
Total ...	2,01,058	66,296	9,84,482	50,187	5,88,874	11,85,540	7,05,357	

A. T. SHUTTLEWORTH,
Conservator of Forests, Northern Circle.

Dated Poona, 31st October 1890.

No. 5287 of 1890.

Revenue Department.

Camp Ahmedabad, 19th December 1890.

Forwarded.

The Conservator's report shows as usual a complete grasp of his subject, and Mr. Shuttleworth may, if the Commissioner may venture on the compliment, fairly take credit for the continued success of his department, which practically owes, in the Northern Circle at least, its organization and working to his own long and arduous labour. At the same time the Commissioner must admit that the results, though satisfactory to the Forest Department, are not always so much so to other departments or to the public.

2. As a good deal of correspondence has taken place only recently about the Thána forests which yield the bulk of the revenue of the Northern Circle, and as Mr. Shuttleworth has said but little about the forests of the Panch Maháls and Surat, the Commissioner will not add many remarks on this occasion.

Chapter I, paras. 18 to 25.—The figures of area for Thána appear to require explanation, though perhaps the Commissioner does not rightly understand them. As there are four tálukas as yet undemarcated and unsettled in Thána, it is plain that more than 10 square miles and 452 acres await forest settlement, and the large proportion which Protected bears to Reserved according to the table given in para. 15 is due, the Commissioner supposes, to the area in the undemarcated tálukas where most of the forest still stands as protected, having been included.

Para. 26.—Mr. Owen may have completed the Váda and Máhím reports, but they have not yet reached the Commissioner, though promised by the end of October. He believes the Váda report has been submitted to the Collector. The Commissioner has already addressed Government with a view to a Forest Settlement Officer being appointed for the remainder of the district.

Para. 42.—It is of importance that the demarcation of the boundaries of reserved forest should be pushed on; but owing to the strength of the establishment being devoted to demarcating coupes it cannot proceed so fast as the Commissioner would like. Still 155 miles in one year in Thána and 118 in the Panch Maháls is evidence of some progress. Until the people thoroughly understand the boundaries between reserved and protected and between protected and out forest, trespassing must be expected. One of the reasons why there has been trouble in Thána is that orders have been given to leave open on occasion various portions of the forests, but measures have not been taken for giving the people from time to time visible indications of the portions open.

Para 43 *et. seq.*—A great want in Thána is a code of privileges, and as the Commissioner writes, a draft which he has been expecting for six months has arrived. A knowledge on the part of all, both officials and the public, of the privileges granted is most important, the circular by Mr. Vidal on the subject needing modification in consequence of the working plans system.

Para. 54.—The Commissioner quite concurs in the value of the 8″ maps.

Para. 59 *et. seq.*—It is obvious that a forest in which free license to lop everywhere is given must suffer and the working plans system described in para. 64 affords a foundation upon which gradually much reform may be built up. It provides amply for the local needs of timber and firewood, but the ráb yield which was to be one of the fruits of it was in the year under report not taken advantage of, and indeed in North Thána the rayats were not allowed to take advantage of it. How to utilize it consistently with forest arrangements is a problem at present under consideration.

It must at the same time be recollected that under the working plans system the whole forest will be cut down in forty years and therefore it is absolutely necessary that the Forest Department should conserve the young growth in the coupes. The Conservator in para. 68 rightly dilates on the importance of this. For, it is obvious that if, when the young teak and seedlings are shooting, cattle graze them down, fires wither them, or rayats cut them for ráb, the forest is practically destroyed for ever. The Commissioner feels, therefore, a little surprised that the Conservator has said nothing as to the measures taken for preserving the coupes. He states, indeed, that that is the duty of the Revenue Department, but conserving is the Conservator's own duty as well as cutting. What the Collector and his officers can do by their influence should and no doubt will be done. Government have indeed sanctioned the deputation of a special Revenue officer to try and induce the rayats to take the coupe ráb. But if the Forest Department does not of its own motion endeavour to induce the rayats, and indeed it put obstacles in their way last year, to take the ráb and if it then leaves valuable young saplings unguarded by fire-path, wire fence or forest guards, mischief must be expected to ensue. The Forest Department have done much in the way of cutting; they should now show their capacity for conserving, and one effectual mode of securing the co-operation of the rayats will be by helping them freely to obtain the concessions which Government have granted. But the department, smarting no doubt at the sight of damage done and determined upon preventing a repetition of, have, the Commissioner fears, yet to learn this policy, and the rayats, even rayats who would bring their custom to it and are willing to purchase forest produce, meet with but a cold welcome. A continuance of this attitude is full of risk to the working plans system, for the forests are being cut down and their reproduction must be secured at any cost. The Commissioner is bound to say at the same time that so far as he has seen himself, the young coupes have not yet suffered. But for the present, seeing that the coupe revenue is now close on four lákhs a year, it would perhaps not be too much to appoint one policeman on Rs. 8 solely to guard the young growth, say one policeman to two blocks. The Commissioner mentions policemen advisedly, as there would then be no possibility of the men being taken off for other duty and the police force supplies guards for other departments already. There are 303 blocks, and if 150 policemen were employed on Rs. 8 a month, the cost would be Rs. 14,400, say Rs. 15,000, as insurance for a revenue of almost four lakhs.

The Commissioner would invite attention to one matter, which is however a detail that the Conservator no doubt contemplates providing for. The theory is (*vide* para. 68) that for ten years the coupes should be "closed against man and beast." But this may mean that the saplings will, in the Konkan, be choked by the rank growth of grass which, if set fire to, would destroy everything. It would be well if the rayats could be induced to take away such grass for ráb or food for cattle.

In para. 67 the passage occurs: "Their highest officers have reported to Government that there are practically no complaints on the part of the people to obtain the satisfaction of their legitimate demands upon the forests." This may possibly refer to passages in paras. 1 and 6 of the Commissioner's letter No. 1712 of 21st May 1890. Para. 6, however, only referred to firewood and local timber needs. In the same letter the Commissioner pointed out that the ráb, whether from coupes or from concessions in reserved forests, had not been made available, and although at that time he had heard few complaints and those seemed capable at that time of easy remedy, the Commissioner has since heard more complaints and he fears with more experience that the remedy is not easy till the Forest Department becomes conciliatory as well as strict.

A special section should, the Commissioner recommends, be devoted, in future years, to the measures taken for protecting the coupes.

Para. 89.—In Thána, grazing difficulties are likely to be surmounted, as the Conservator proposes to allow grazing in the whole forest excepting in closed coupes, and if the forest guards are properly instructed and the coupes are clearly demarcated there should be no difficulty, though of course in years to come, when a belt of 10 coupes is interposed between a rayat and his grazing, the temptation to let the cattle out at night into the coupes close at hand, in

preference to sending them by day to a distance, will be considerable. It must however be guarded against and this makes it all the more desirable to clear away the grass out of the coupes. In special cases the omission of a compartment at intervals might be resorted to, if the Collector recommended it.

Para. 92.—A reference will be made to the Magistrate of Thána as to the reported insufficiency of pounds.

Para. 100 *et. seq.*—It is satisfactory that fires have decreased. The late Collector of Thána has recently made proposals for specially dealing with this evil, which the Commissioner has referred to the Conservator.

Para. 106 *et seq.*—The table in para. 107 contains a misnomer. The area of 4,005 acres in South Thána, which yielded only Rs. 925, or under 4 annas an acre, can scarcely be described with accuracy as "valuable kurans." The sale of this grass is contrary to the provisions of Government Resolution No. 7467 of 15th September 1885, para. 1, quoted in the margin, which are still in force in spite of the grazing rules and fees that follow having been remodelled. The reason is obvious. If the rayats of a village have been accustomed to graze in a particular locality for years, it is undesirable that a young forest officer, with the laudable desire of increasing the Government revenue, should turn them out and sell the grass, putting them to more inconvenience than the grass is worth. Government will, I hope, reiterate their views upon this subject. It is necessary that the Collector should know what are considered by the Forest Department "valuable kurans," or he cannot tell the people where they may go to graze and where they may not go. The Commissioner would suggest that the Collector and Divisional Forest Officers should jointly settle the names of the "kurans," and if at any time owing to demand for grass or other reasons the Divisional Forest Officer wishes to sell grass in other areas he can obtain the consent of the Collector who will see that grazing privileges are provided for otherwise, and that the village officers and people are told what is going to be done. It is true that the sale of so-called "kurans" throughout the circle produces 1¼ lákhs of revenue, but as the new rules raise the grazing fees and impose them on all cattle except cultivators' cattle of villages which have contributed gáirán to forest, a reduction in the proceeds from grass will be made up in another legitimate way. It is the unsettled state of things, the not knowing where to graze and where not, that causes trouble. All over the Presidency it should, the Commissioner suggests, be the rule that if any portion of forest is closed, immediate intimation should be given to the people through the Collector. They should not be left to learn it from a forest guard, whose action they may attribute to arbitrary power, and who is not empowered to listen to any complaints. The Conservator has been good enough to promise that this shall be the rule in Thána. It is only right to add that Mr. Shuttleworth has in a Circular No. 2860 of 29th August last ordered the Divisional Forest Officers and their subordinates to induce the villagers to go into the coupes and take the ráb, and if the Conservator's subordinates act in the spirit of his orders a very great step will be made. But from the Commissioner's observation, he is inclined to think that the forest subordinates, careful of course for their own reputation and afraid of damage to the forests, have done nothing as yet towards it. The best of orders is waste paper if it is not vigorously carried out.

Except in the case of any really valuable grass kurans where it has been customary to sell the grass and grazing by auction and they fetch a high price, the practice of annual auctions should be discontinued.

Para. 113.—As far as the Commissioner is aware, the object of Government in passing the recent grazing rules was to consolidate orders, bring grazing privileges under better control, and revise the fees. It is not clear how the "real interests of the rural cattle" can be furthered by charging more highly for the grazing. The Conservator seems in error in saying that "seasons of grazing" are contemplated by the rules which are silent on that subject. "Limitations of grazing" will, if the Commissioner is not mistaken, yield to a tendency to raise revenue from as many cattle as possible. Allusion is made to "illicit grazing," but customary grazing that has been enjoyed for generations should not be stigmatised as "illicit," merely because for good reasons it has now been decided to make a charge for it.

Para. 143.—The roads under construction in Thána will be of the highest value to the Forest Department, and also to the district generally.

Para. 147.—The sale of coupes to contractors is greatly to be preferred for obvious reasons to departmental sale, but when coupes are not taken up by contractors, they must be worked departmentally, or how are the people to get the ráb and firewood that has been promised to them? Not to cut a due coupe would be to break the backbone of the working plan system in Thána. Yet to cut it, and not sell the timber, is wasteful. It would be advisable to admit the people to the coupe and allow them to take the firewood and ráb, leaving the denuded trees standing. The trees will not die, and though their future growth may be impeded, they will fetch their value as timber in the succeeding year. The Commissioner is glad to learn that the Conservator has agreed to this plan, as regards ráb.

Para. 158.—The Thána forests, in spite of unsold coupes, yielded Rs. 3,80,000 worth of timber against Rs. 3,20,000 in the previous year. This is satisfactory, but, as has been observed, if the coupes are not protected, that revenue of close upon four lákhs a year will be imperilled.

Para. 162.—The slack demands in North Thána for bámboos are due, so the Commissioner was recently informed, to an enhancement of the fees, though purchasers did not object to that so much as to the strictness of forest guards who, it was said, insist on unloading every cart, and upon opening every bundle of 50 bámboos, no matter how many times the loads have been opened before, lest a portion of timber for an axle or a plough handle should be concealed within the bámboos. The Commissioner has brought the matter to the Conservator's notice. Smuggling must be prevented, and it is difficult to interfere with forest guards' discretion. But just as a custom-house officer does not examine every article of clothing in a traveller's baggage, although he has the power to do so, so forest guards might be brought to exercise their powers with judgment. It would be interesting to know the reasons for the different rates charged for bámboos. The Commissioner finds the prices fetched are as follows:—

North Thána	...	... Rs. 37 for 1,000
South Thána	...	... „ 27 „ „
East Khándesh	...	... „ 14 „ „
West Khándesh	...	... „ 10 „ „

No doubt the price near Bombay should be higher, but the cost of transport alone would scarcely explain these differences.

Para. 184.—The Commissioner concurs in the opinions recorded of Messrs. Gleadow and Millett, so far as their ability, industry, and devotion to forestry are concerned. But if those gentlemen paid equal attention to carrying out the wishes and orders of Government as regards rayats' rights and privileges, the Commissioner would have still greater pleasure in commending them. Recent orders of Government will, it is hoped, go some way to the desired end. Undoubtedly one of the chief objects of the Forest Department is to bring people into discipline and convert vague and mischievous habits into method and order. But judgment is needed for enforcement of the rigid rules of French and German conservancy upon an Oriental people, and when privileges are being curtailed and brought under control as they must be, a loyal endeavour to meet admitted needs is likely to pay in the long run. The Commissioner gladly states that in the Panch Maháls a give-and-take policy prevails, which he would like to see in Thána. Undoubtedly the Forest Department have great difficulties for which allowance perhaps is not always sufficiently made, and they are bound to keep in view a high standard of conservancy, but a little more considerateness would, the Commissioner feels sure, tend much to reduce friction.

H. E. M. JAMES,
Commissioner, N. D.

No. $\frac{R}{5855}$ OF 1890.

FROM

W. A. EAST, ESQUIRE,
Acting Commissioner, C. D.;

To

THE CHIEF SECRETARY TO GOVERNMENT,
Revenue Department.

Poona, 23rd December 1890.

SIR,

I have the honour to submit with my remarks the Forest Administration Report of the Northern Circle for the year 1889-90 received from the Conservator with his memorandum No. 4423, dated 6th instant.

2. Paras. 18 to 21.—The addition to "Reserved Forests", as far as the Central Division is concerned, amounted to 35 square miles and 193 acres, which, with the exception of 368 acres added on account of rectification of areas or correction of book entries, represents a solid accession to the forest area. The largest addition was in the Sátára Division, and the smallest in West Khándesh.

3. Para. 22.—The statement embodied in this paragraph shows that, of the 65 tálukas in the Central Division, the demarcation work in 59 has been completed; in 5 tálukas the work has been commenced but not yet completed; and in only 1 táluka, *viz.* Sindkheda, in the Khándesh District, has the work not yet been undertaken.

4. Paras. 23 and 24.—The area of occupied lands within demarcation limits, acquired for forests, in the Central Division, was 4,352 acres and 3 gunthás. The total amount of money compensation paid for this land was Rs. 5,151-4-4. The largest area acquired was in the Ahmednagar District.

5. Paras. 25 to 33.—The only district in the Central Division in which the work of forest settlement enquiries is considerably in arrears is Khándesh. Mr. Dodgson has, however, made very satisfactory progress, as will be seen from paras. 27 and 28 of the report. It is much to be regretted that the late Collector of Násik did not, before making over charge, submit the forest settlement proposals for the Dindori Táluka to which reference is made in para. 29 of the Conservator's report. It is hoped that his successor will not allow the delay to continue. The orders of Government have now been received on the Singhar and Donja demarcation and settlement proposals, and the rights of the shetsandis determined after more than 50 years of correspondence.

6. Para. 42.—Satisfactory progress was made in the erection of special forest boundary-marks, especially in the districts of Násik and Poona.

7. Paras. 83 to 85.—Except in the East and West Divisions of Khándesh where the percentage of failures shows a marked diminution, forest prosecutions have not, as far as the Central Division is concerned, been attended with the same measure of success as during the previous year. The figures for the Poona and Sátára Districts are especially unsatisfactory. The Conservator states that "it is difficult to assign a cause for this." One cause which came to my notice, when Collector of Poona, was the considerable delay in preferring complaints of petty offences.

8. Paras. 86 to 90.—Offences of injury to forests by fire were most noticeable in the Khándesh District, more especially in the west. A large number of cases also occurred in the same district under the head of "Unauthorized fellings or appropriation of wood, &c." This, considering the wild nature of the country and people, is scarcely matter for surprise. In the Poona District too numerous cases under "Unathorized fellings and appropriation of wood, &c.," and "Grazing without permission" appear to have occurred. More than four times the cases that were taken into Court were compounded under Section 67 of the Indian Forest Act. The largest number compounded during the year under report was, as in the previous year, in the Ahmednagar District, and the

smallest in Sátára. The amount realized by the Forest Department in this manner was Rs. 17,074-15-0, of which Rs. 15,008-15-0 were on account of the Central Division.

9. Paras. 91 to 95.—The number of cattle impounded for trespassing in forest areas was exceedingly large in the Ahmednagar and Poona Districts, especially in the former; and in this respect there has been no improvement over the previous year. There is no doubt that the question of grazing is surrounded with many difficulties, and it is not easy to hit upon its satisfactory solution. The description of the barren rock tracts which constitute a large proportion of the Deccan grazing grounds as forests under regeneration and abounding in luxuriant vegetation is, to say the least, too highly coloured for the most part, and the large figures representing the number of cattle impounded suggest doubts whether the present system is not too violent a departure from old established custom. The entrustment of grazing interests to a department in its very nature hostile to them can only be regarded as an experiment which should be carefully watched. The tendency of the department is, it cannot be doubted, to subordinate all interests to the growth of timber. A diminished supply of good milk, mutton and beef is a heavy price to pay for a few square miles some decades hence of worthless scrub jungle. If the Forest Department had its way, it would abolish goats altogether and permit sheep to exist only on private land so far from forests as to be safe from straying into them. Before making over grazing land to the Forest Department it would be well if closer inquiry were held whether they could do any good with it, either directly by raising wood or indirectly by protecting the surface of the soil in exposed situations. My sympathies are entirely with the Forest Department except where there is danger of its trenching on valuable sources of food-supply without profit to its own cause. The Conservator in his remarks on the perversity of graziers seems to forget that the so-called forests are artificial creations of yesterday, whilst as grazing grounds they have existed for generations in a country which is notoriously conservative of ancient custom. They are frequently unrecognizable as forests in the common use of the term.

10. Paras. 100 to 105.—The area burned by forest fire during the year under report was, as far as the Central Division is concerned, less in every Forest Division, except East Khándesh and Poona. It is satisfactory to note that the Forest Department has received cordial assistance from village officers and forest villagers in the suppression of forest fires.

11. Paras. 106 to 114.—The revenue from grass and gazing shows a steady development on the whole, although receipts in particular districts have fallen off. The causes of the several increases and decreases have been briefly explained by the Conservator.

12. The remarks on broad-cast sowing as a means of reproduction are interesting and instructive. The mention of the usefulness of prickly-pear as protection for seedlings suggests a method whereby that much-abused plant might be turned to advantage in raising groves in the neighbourhood of villages. After its purpose had been served the prickly-pear might be removed if it were not possible to select for broad-casting seeds of trees under the shade of which it would die out.

13. Para. 166.—It is noteworthy that the number of demands for free grant of timber has very considerably decreased during the year under report. The number of grants in 1889-90 was 1,936 only as compared with 3,440 in 1888-89 and 4,049 in 1887-88.

14. The net financial results of the forest administration are satisfactory, indicating steady progress and development which are in themselves the best testimony to Mr. Shuttleworth's ever increasing experience and unflagging zeal in the department he has ably managed for so many years.

I have the honour to be,

Sir,

Your most obedient Servant,

W. A. EAST,

Acting Commissioner, C. D.

SIND CIRCLE.

No. 846 of 1890-91.

From

THE ACTING CONSERVATOR OF FORESTS,
SIND CIRCLE.

To

THE SECRETARY TO GOVERNMENT,
REVENUE DEPARTMENT,
BOMBAY.

Conservator's Office,
Hyderabad, 10th September 1890.

Sir,

I have the honor to forward herewith the Forest Administration Report of the Sind Circle for the year 1889-90, with its subsidiary statements.

I have the honor to be,

Sir,

Your most obedient Servant,

W. S. HEXTON,
Acting Conservator of Forests, Sind Circle.

(Submitted through the Commissioner in Sind.)

ANNUAL FOREST ADMINISTRATION REPORT OF THE SIND CIRCLE FOR THE YEAR 1889-90.

Chapter I.

Area and Boundaries.

The following areas are reported as having been eroded and deposited by the action of the river on the forests on its banks :—

Name of Division.	Area lost by the action of the river.	Area gained by the action of the river.
	Acres.	Acres.
Sukkur	1,425	6,235
Naushahro	1,250	740
Hyderabad	1,300	550
Jerruck	200	...
Total...	4,175	7,525

These areas are mere estimates of what has taken place, and owing to the uncertain nature of the accretions should not, in my opinion, be annually

deducted from or added to the general statement of areas. On this principle annual form No. 49 for the year under report has been prepared. In order to ascertain correctly, the actual effects on the areas of the forests caused by the action of the river, a periodical revision of the forest survey should be made. The last survey having been made in 1868, it is therefore now time it should be revised.

2. I am perfectly certain that within the last twenty years the loss has been considerably in excess of the gain, notwithstanding the assiduity with which the officers of the Forest Department have watched its interests, and have constantly disputed the encroachments on the forest frontages that have been attempted from time to time by the zamindars: this procedure on the part of the Forest Officers has caused what are termed "katcha disputes" to become very troublesome, and a new set of rules for their disposal has been the result. The alluvion and diluvion rules, according to which former decisions were arrived at, are not to be applicable for the future, and it now rests with the Collectors to recognize or not, as the case may be, the claims of the Forest Department to new lands deposited by the river. Owing to the silting up of old channels, the formation of new ones, and the return of the river to one of its old beds, the disposal of kacha disputes becomes very difficult, but the statements made by Forest Officers should carry more weight than those of the zamindars, who are not very particular in what they state, as long as they can get possession of new land yielding very large returns for little or no expenditure of labour. A good deal of correspondence ensued on the first issue of these rules, the contention of the Forest Department being that they are practically illegal.

3. When the riverside forests were first notified as reserved forests, they were defined as having the river a boundary on one side, therefore it stands to reason that all new land which may subsequently have been formed by any alteration taking place in the river's course, should be regarded as belonging to the forest to which it is attached, and the boundary lines on both sides of the forest should be produced, till they touch the river in its new channel. Such accretions cannot be interfered with or given out for cultivation by the Collector, until such time as they have been disforested under the Forest Act. As the loss and gain entered in the annual statements are only vague estimates, a survey alone will show what has really happened, and if it is found that I am correct in what I have stated and the forests have lost in area, it should be made good to the department by handing over old katcha lands, of which there are extensive tracts on both banks of the river.

4. The following table gives the area of the Sind Forests as it stood on the 31st March 1889, with the areas acquired and disforested under the Forest Act:—

Name of Division.	Area as it stood on 31st March 1889.				Area added during the year 1889-90.				Area excluded during the year.				Area as it stood on 31st March 1890.			
	Reserved.		Protected.		Reserved.		Protected.		Reserved.		Protected.		Reserved.		Protected.	
	Sqr. Miles.	Acres	Sqr. Miles.	Acres	Sqr. Miles.	Acres	Sqr. Miles.	Acres	Sqr. Miles.	Acres	Sqr. Miles.	Acres	Sqr. Miles.	Acres	Sqr. Miles.	Acres
Sukkur ...	445	137	1	128	13	260	...	...	12	193	...	...	446	204	1	128
Naushahro ...	233	342	...	...	...	...	...	..	...	...	...	...	233	342	...	...
Hyderabad ...	158	578	...	...	1	3	...	...	...	...	...	...	159	581	...	...
Jerruck ..	125	424	...	...	26	53	...	117	...	...	...	...	151	477	...	117
Total...	963	201	1	128	40	316	...	117	12	193	...	...	991	324	1	245

5. The sum of Rs. 1,383 was expended on the prevention of trees falling into the river, and a portion of the material thus rescued realized Rs. 2,892-7-2.

6. Areas notified under Section 19 of the Forest Act during the year under report are given below :—

Name of Forest.	Taluka.	Area in Acres.
Drago	Ghotki ...	2 5
Nurketi	Hala ...	643 5
Kacho Shah Lanko	Tatta ...	313 20
„ Aliganj		714 38
Bavo Purandas		6,413 0
Bijora		5,889 25
Chachh		3,361 27
	Total...	17,338 0

7. If the Forest Department is expected to keep up a permanent supply of fuel for the State Railway, the selection, demarcation and acquisition of new land is far from being complete, and if the wood is to be delivered at the stations at a moderate rate, the new reserves must be situated on the banks of the river, water carriage being infinitely cheaper than carts, camels or donkeys.

8. The income from firewood and charcoal in the year 1870-71 was Rs. 1,23,151, and in 1887-88 it had increased to Rs. 4,19,430. The demands, however, is still daily increasing with the introduction of steam machinery for cotton, flour and ice, and also people in Karachi and the Commissariat Department at Quetta are making inquiries for fuel. Having very nearly exhausted the supply of fuel in the Bahawalpur State, the railway authorities would be only too glad if we could make up the deficiency from the Sind forests. Large tracts of land along the river are still available, and their acquisition by the Forest Department should not be deferred.

9. In the Thar and Parkar Districts 1,39,768 acres were selected during the year under report as fuel reserves for a future railway. These lands, I think, should be handed over to the Forest Department at once, notwithstanding the proposed arrangements of the Deputy Commissioner that they should be left in his charge until the railway has been sanctioned.

10. The table given below shows the lands that have been selected for forest reservation and provisionally notified under Section 4 of the Forest Act, and the final reservation of which is still awaited :—

Name of Forest.	Taluka.	Area in Acres.
Khairwah	Jacobabad ...	56 30
Gokalpur		64 30
Tarai	Naushahro Abro.	2,349 5
Chango Rahuja		1,749 35
Choi		3,132 20
Adamji		4,352 25
Phohyri		473 4
Masti Khan		225 0
Sekhat	Hala ...	12 35

CHAPTER II.

SURVEY WORKING PLANS AND ANNUAL PLANS OF OPERATION.

11. The departmental survey of the forests on a large scale has been in progress, but the services of only one surveyor were available, the other qualified surveyor was, during the early part of November, deputed to settle the boundary line of Kacho Kanuri and remained there till January; afterwards he was attached to the Divisional Forest Officer, Hyderabad, who had received orders to inspect the land in the Thar and Parkar Districts, the acquisition of which, as fuel reserves for a proposed railway, has been under consideration.

12. The following forests were surveyed during the year under report:—

Sukkur Division.

	Area surveyed.
Abad	4,393 Acres.
Khia Bindi	1,370 „
Keti Shahu	1,500 „
Shah Belo	3,760 „

Hyderabad Division.

Kacho Khanote.

13. The work of cutting up the forests with compartment lines has progressed satisfactorily—193 miles were cut.

14. Boundary marks round all the forests have been kept in repair, and boundary paths and compartment lines have been cleared of the season's growth.

CHAPTER III.

PROTECTION AND IMPROVEMENT.

Section 1.—*Establishments.*

15. In the year 1871-72 Government, on the report of the Inspector-General of Forests in India, (the late Dr. Brandis), deputed Dr. Schlich to examine the Sind Forests, and, if necessary, to bring them under a better system of management. The result of this examination was the formation of three separate Divisions, each under an Assistant Conservator of Forests, and the position of the subordinate staff was thereby slightly improved. The area of the State forests then was 3,52,041 acres—income, Rs. 2,42,675—expenditure, Rs. 1,44,518—surplus, Rs. 98,157. Subsequently Mr. Campbell submitted proposals for a revision of establishment, which were sanctioned in Government Resolution dated the 16th March 1876. Four Divisions were formed, an Assistant Conservator of Forests in charge of each, and the pay and prospects of the subordinate establishment were improved. In 1876-77 the area of the forests was 3,43,326 acres—income, Rs. 3,36,029—expenditure, Rs. 2,32,473—surplus, Rs. 1,03,556. Again, proposals for a permanent protective and office establishment were called for in Government Resolution No. 3687, dated the 7th June 1882, which were submitted by me in August 1883, and sanctioned from 1st April 1885.

This revision absorbed the temporary establishment. Five Divisional Offices were formed, and Rangers and Foresters were graded on higher pay.

In 1885-86 the area was 4,30,926 acres—income, Rs. 5,36,874—expenditure, Rs. 4,02,660—surplus, Rs. 1,34,214. The controlling staff then consisted of—

Colonel McRae, Conservator of Forests.

Mr. Hexton, Deputy Conservator of Forests, Hyderabad Division.

„	Dasai	„	„	Jerruck	„
„	Gleadow, Assistant	„	„	Sukkur	„
„	Neribdas, Sub-Assistant	„	„	Naushahro	„
„	Showkiram	„	„	Jacobabad	„

Since then the area in charge of the department has increased with the income and expenditure, and during the year under report reached—area 6,34,564 acres—income, Rs. 6,26,761—expenditure, Rs. 4,09,458—surplus, Rs. 2,17,303, and the controlling staff at the end of the year was as follows :—

Colonel McRae, Conservator of Forests.

Mr. Ryan, Assistant Conservator of Forests, Sukkur Division.

„	Neribdas, Sub-Assistant	„	„	Jerruck	„
„	Showkiram	„	„	Hyderabad	„
„	Tuljaram	„	„	Naushahro	„

The fifth Division, Jacobabad, was added to the Sukkur Division, all with the exception of one range, which was transferred to the Naushahro Division, and the Divisional Office was abolished from the 1st April 1887. It will be thus apparent that while the work, income, expenditure and area has during this time been steadily increasing, there has been a great reduction in the controlling staff, one Division is held charge of by an officer entirely unacquainted with English, whilst the Sukkur Division is so large that the Divisional Forest Officer cannot possibly give the necessary supervision to the forests in his charge, as he is not able to visit the whole of them once during the season. Colonel McRae has already applied for the services of one other officer, and I am of opinion that two more are absolutely necessary, one of them to be on probation learning the work, so as to be at hand to relieve any of the other officers who may be going on leave, or incapacitated through sickness.

16. Colonel J. G. McRae was at the head of the Department throughout the year.

17. Mr. G. M. Ryan was in charge of the Sukkur Division from 1st to 8th April 1889, and was transferred to the Jerruck Division, relieving Mr. A. Stewart on the 10th idem.

18. Mr. A. Stewart took charge of the Sukkur Division on the 13th April 1889 from Mr. Tuljaram, who was temporarily in charge of that Division.

19. Mr. A. Stewart proceeded on three months' privilege leave on the 18th June 1889 and was relieved by Mr. Tuljaram, Sub-Assistant Conservator of Forests, who held charge of the Sukkur Division till the 9th October, when he was relieved by Mr. Ryan, transferred from the Jerruck Division.

20. Mr. Neribdas was in charge of the Naushahro Division from 1st April to 10th October, was relieved by Mr. Tuljaram, Sub-Assistant Conservator, and proceeded to assume charge of the Jerruck Division from Mr. Ryan.

21. Mr. Tuljaram held independent charge of the Naushahro Division till the end of the year. It is very much to be regretted that this officer is unacquainted with English, the language in which all his accounts are submitted to the Accountant General, and in which more than half of his correspondence takes place. He is a very good assistant to a Divisional Forest Officer, but should never have been placed in independent charge of a Division.

22. Mr. Showkiram Pribdas, Sub-Assistant Conservator of Forests, held charge of the Hyderabad Division throughout the year.

23. The Jerruck Division was under the charge of Mr. A. Stewart till the 9th April, when he was relieved by Mr. Ryan on the 10th idem, who held charge till the 8th October 1889, and relinquished charge on the following day, being succeeded by Mr. Neribdas Jethmal.

24. Mr. A. Stewart, Deputy Conservator of Forests, was transferred to the Northern Circle, and left Sind on the 18th June 1889.

Section 2.—General Protection and Breaches of Forest Laws.

25. The case against Forester Anandrai, reported on in the concluding portion of para. 25 of last year's report, as pending in the City Magistrate's Court at Shikarpur, was committed to the Sessions Court and resulted in the acquittal of the accused. But Munshi Anandrai was dismissed the service by Colonel McRae on account of dishonesty, inefficiency, insubordination, repeated neglect of duty and disregard of orders.

26. A comparative table showing the cases tried before Magistrates for breaches of Forest laws during the year under report and the one preceding it is given below :—

Name of Division.	Number of cases tried before Magistrates.		Number of convictions.	
	1888-89.	1889-90.	1888-89.	1889-90.
Sukkur	84	65	46	45
Naushahro	8	16	7	11
Hyderabad	10	14	8	8
Jerruck	3	3	2	3
Total ...	105	98	63	67

There seems to be a reduction in the number of cases tried before the Magistrates to that of the previous year, whereas on the other hand the convictions obtained are greater. The whole of these cases are of a trifling nature, with the exception of the one given below.

Muso Bughio, a zamindar in the Labdaria Taluka, cut a broad boundary path through a part of the Kanoori Forest, with a view of adding the land so cut off to his zamindari. The matter was inquired into and a complaint was lodged against him in the 2nd Class Magistrate's Court at Labdaria, but was subsequently transferred to the Sub-Divisional Magistrate's Court at Rohri. The case was pending at the close of the year, and the services of the Public Prosecutor had been applied for and obtained.

27. The subjoined table shows the number of petty offences compounded under Section 67 of the Indian Forest Act :—

Name of Division.	Illicit grazing.		Thefts.		Other offences.		Compensation.	
	1888-89.	1889-90.	1888-89.	1889-90.	1888-89.	1889-90.	1888-89.	1889-90.
Sukkur	514	371	73	66	7	4	2,659	1,638
Naushahro	103	146	24	17	10	42	149	226
Hyderabad	117	97	119	114	...	...	720	590
Jerruck	493	429	5	29	28	...	788	614
Total ...	1,227	1,043	221	226	45	46	4,316	3,068

It will be observed from the above table that the number of offences under illicit grazing during the year under report is considerably less than that of the preceding year. This result is due to the efficient control exercised by Forest Guards, along with the fact that, owing to the high inundation, good grazing could be had outside forest limits and cattle owners were not so much tempted to trespass.

Section 3.—Fires.

28. There is a great improvement in the figures as compared with the previous year, which is attributable to the high inundation and other causes, such as closing areas burnt against grazing.

29. The following statement gives the number of fires and the areas burnt during the last and the previous year :—

Name of Division.	Number of Fires.		Area burnt—Acres.	
	1888-89.	1889-90.	1888-89.	1889-90.
Sukkur	61	41	3,946	1,197
Naushahro	8	3	2,078	13
Hyderabad	15	7	1,013	397
Jerruck	10	8	238	96
Total ...	94	59	7,275	1,703

The area burnt by fires was not valuable but covered with grass, &c.

Section 4.—Grazing.

30. The inundation had been a high one, and in consequence the grazing was good and saved the cattle from the distress which threatened them by the failure of rain.

31. A statement of the number of cattle permitted to graze free is given below :—

Buffaloes	721
Horned cattle	3,684
Horses and donkeys	53

Section 5.—Natural Reproduction.

32. The working plan of the Sind Forests, probably already described in former reports, consists in the fencing in of compartments worked for fuel, and out of which cattle are excluded, until the coppice-shoots and seedlings are of such growth as to escape being trodden down, when buffaloes, cows and sheep are admitted, and after the tops of the young trees have attained a sufficient height to be free from harm—goats are then allowed to browse. Attention has been paid to this duty, and with satisfactory results, as far as the river-side forests are concerned; but complaints have reached me with regard to a number of the areas acquired within recent years that are situated some distance from the river. The Divisional Forest Officer, Sukkur, remarks—"As the system of irrigation in Sind is by means of canals, it is necessary to point out how very desirable it is that forests should be given to us along the river bank where floods come," and "it is better under existing conditions to abandon those Belas far removed from the river which can be irrigated by canal agency only, and secure instead Belas on the river side." Again, "there is a large area of land in the Shikarpur range, the growth in which is getting small by degrees and beautifully less, and the state of which is rapidly deteriorating into the condition of a desert." The Divisional Forest Officer, Naushahro, reports:—"If the closed blocks referred to in the foregoing two paras. do not get sufficient water, it is feared that they will be ruined soon." The forests in the other two Divisions are all, with only one or two exceptions, situated on the banks of the river, and are therefore under the influence of its floods. The above facts prove that I am right in the opinion I have already expressed to the effect that all new reserves should be selected from areas available on the river.

Section 6.—Artificial reproduction.

33. It has been ascertained that the conditions under which the forests in Sind have been formed are a sufficiency of water and the strict exclusion of cattle during the early stages of their growth. We also know that their position as regards water varies according to the eccentricities of the river, which frequently makes the very existence of the forests uncertain. I therefore think any money expended on the artificial production of forests in Sind is utterly wasted. The year's operations under this head have been restricted to the sowing of a quantity of babul seed in closed blocks, but, as a rule, this is unnecessary, and the distribution of seed may be safely left to cattle and floods which do it much more thoroughly.

Section 7.—Experiments.

34. Experiments with exotics have on the whole been failures. We find the *Dalburgia Sissu* (Tali) thrives in Upper Sind, and I believe that the *Prosopis Glandulosa* and *Accacia Catechu* (Khair) may eventually grow side by side with the Babul and Kandi, but their distribution will be very slow. Cattle, which are very fond of the legumes of the former may hasten the process. I have long been of opinion that the *Casurina* would succeed in the sandy valley of the Malir river near Karachi, and hope to visit the locality again with the view of seeing how my old experiment has succeeded.

Section 8.—Communications and Buildings.

35. In the Sukkur Division a small house for the Naka Munshi of Jhali was built at a cost of Rs. 80. Existing buildings were repaired as usual.

36. In the Naushahro Division a compound wall was constructed round the Larkana Depôt at a cost of Rs. 65, and the necessary repairs to existing building were carried out.

37. In the Hyderabad and Jerruck Divisions nothing new was undertaken, and existing buildings were repaired.

CHAPTER IV.

YIELD AND WORKING.

SECTION 1.—DEPARTMENTAL OPERATIONS.

38. The following is the detail of the working of Depôts :—

Name of Depôt.	Stock on hand on 1st April 1889.			Added during the year 1889-90.			Disposed of during the year 1889-90.			Balance on 31st March 1889-90.		
	Timber.	Posts and Rafters.	Fuel.	Timber.	Posts and Rafters.	Fuel.	Timber.	Posts and Rafters.	Fuel.	Timber.	Posts and Rafters.	Fuel.
	C. ft.	No.	Mds.	C. ft.	No.	Mds.	C. ft.	No.	Mds.	C. ft.	No.	Mds.
Shikarpur	327	8,802	200	28	9,590	...	61	15,585	11	294	2,807	189
Sukkur	9,378	8,717	266	2,523	7,328	1,819	4,361	15,355	1,216	7,540	690	869
Rohri	376	847	...	396	13,861	...	232	7,571	...	540	7,137	...
Larkana	...	267	281	...	500	3,325	...	767	3,606	...	...	...
Sehwan	...	5,166	...	17	7,450	...	17	9,864	...	...	2,752	...
Tatta	221	...	...	...	...	...	221	...	...	...	...	...
Keti Bandar	333	...	1,875	9,657	...	...	9,325	...	625	665	...	1,250
Kotri	523	...	32,276	...	...	94,216	179	...	1,12,613	344	...	13,879
Hyderabad	3,051	52,349	1,645	13,159	1,15,737	68,425	12,123	1,15,176	51,780	4,087	52,910	18,290
Total ...	14,209	76,148	36,543	25,780	1,54,466	1,67,785	26,519	1,64,318	1,69,851	13,470	66,296	34,477

39. The quantity of timber and fuel sold at each Depôt is given below :—

Name of Depôt.	Timber—c. ft.		Posts and Rafters. No.		Fuel—Mds.	
	1888-89.	1889-90.	1888-89.	1889-90.	1888-89.	1889-90.
Shikarpur	325	61	9,947	15,585	...	11
Sukkur	3,284	4,361	6,014	15,355	1,025	1,216
Rohri	1,877	232	18,449	7,571	...	...
Larkana	...	...	1,633	767	4,428	3,606
Sehwan	...	17	13,729	9,864	...	...
Karachi	...	...	...	...	...	...
Tatta	8	221	1,640	...	...	...
Keti Bandar	7,510	9,325	...	...	812	625
Kotri	860	179	80	...	1,18,960	1,12,613
Hyderabad	6,107	12,123	1,73,566	1,15,176	87,246	51,780
Total ...	19,971	26,519	2,25,058	1,64,318	2,12,471	1,69,851

40. The following statement gives the quantity of timber supplied to the State Railway and other departments and bodies direct from the forests :—

Name of Department.	Babul logs.	Babul sleepers.	Tali logs.	Poplar bullies.
North-Western Railway	...	...	...	1,825
Karachi Harbour Works	...	1,310	...	...
Gun Carriage Department	477	...	...	...
Telegraph Department	4	...	...	...
Judicial Department, Quetta	12	...	4	...
Total ...	493	1,310	4	1,825

41. The following quantity of timber cut departmentally was disposed of to private purchasers in the forests:—

Name of Division.	Timber, c. ft.	Babul posts.	Bhan posts.	Jhau posts.	Bhan rafters.	Jhau rafters.	Kirrir rafters.	Bhan bullies.	Babul pieces.	Babul slabs.
		No.	No.	No.	No.	No.	No.	No.	No.	No.
Sukkur	227	...	...	...	30	...	...	1,825	...	...
Naushahro	2,336	50	25	...	505	4,970	950	...	...	...
Hyderabad	31	...	...	...	...	...	...	...	40	345
Jerruck	1,389	...	...	300	...	...	...	...	...	...
Tatal ...	3,983	50	25	300	535	4,970	950	1,825	40	345

42. All the depôts have been worked departmentally, with the exception of the one in Hyderabad, which is managed on the share system as heretofore.

43. In the Sukkur Division there is an improvement in the sales at all the depôts excepting Rohri, but it is mainly due to a better demand for poplar for building purposes, caused by the damage which the heavy floods brought about, and also to a reduction in depôt rates sanctioned by Government in their Resolution No. 3490, dated the 11th May 1889. As directed by Government in the Resolution quoted above, a report was submitted to Government through the Commissioner in Sind which led to a correspondence regarding the levy of duty on foreign timber imported into Sind, but the matter remained unsettled at the close of the year.

44. In the Naushahro Division there is a decrease in the sales of posts and rafters in the Larkana and Sehwan depôts, owing to there being no demand for them.

45. In the Hyderabad Division there is an increase in the sale of timber at the Hyderabad depôt, due to a better quality having been brought by the share contractor, but there is a marked decrease in the sale of rafters, which may be attributed to the dullness of the market. The decrease in the sale of timber in the Kotri depôt is due to the Port Engineer, Karachi, having taken 1,310 sleepers instead of 4,002, which he took in the previous year. The import of firewood from jagir and revenue lands gave a blow to the sales in the Hyderabad depôt.

46. The timber shown in stock in the Keti Bandar depôt of the Jerruck Division was cut for the Gun Carriage Factory, Bombay.

47. The statement given below shows the quantity of firewood supplied to the State Railway and other Public Departments and bodies during the previous and the year under report:—

To whom supplied.	Firewood in Maunds.	
	1888-89.	1889-80.
North-Western Railway	3,72,476	18,16,614
Commissioner's Steamer "Jhelum"	13,925	17,992
Indus Ferry Steamers	1,61,350	79,794
River Conservancy Department	6,295	7,557
Public Works Department	222	644
Karachi Harbour Works	50,827	24,150
Commissariat Department	24,857	24,325
Hyderabad Water-Works	41,000	37,000
Sukkur Municipality	3,550	5,810
Hyderabad Jail	2,572	2,888
Government Farm, Hyderabad	7,750	7,750
Total	6,84,824	20,24,524

There is a large increase in the quantity of locomotive fuel supplied to the North-Western Railway. This work was done by contracts in all the divisions excepting Hyderabad, where it was carried out departmentally in a most satisfactory manner by Mr. Showkiram Pribdas, Sub-Assistant Conservator of Forests.

SECTION 2.—REMOVAL OF PRODUCE BY PURCHASERS.

48. The following is a statement of the value of timber and firewood removed from the forests other than that removed under the Permit Pass system:—

Name of Division.	Timber.		Firewood.	
	1888-89.	1889-90.	1888-89.	1889-90.
	Rs.	Rs.	Rs.	Rs.
Sukkur	5,231	3,447	1,011	1,050
Naushahro	712	977	1,133	1,358
Hyderabad	2,515	2,020	2,934	2,945
Jerruck	934	797	368	444
Total	9,392	7,241	5,446	5,797

49. The following statement gives the receipts at each Ghāt for the last two years:—

Name of Division.	Name of Ghat.	Revenue realized.	
		1888-89.	1889-90.
		Rs.	Rs.
Sukkur	Rahuja, Jhali, Rohri	10,763	12,269
	Sadar, Stewart, Khura	13,708	12,671
Naushahro	Larkana	2,666	2,000
	Garhi Yasin	848	1,201
Hyderabad	New Fuleli, Old Fuleli, Hajipur	2,125	1,217
	Total	30,110	29,358

There is a slight falling off under this head, which is due to a larger number of passes having been issued by the Revenue Department for wood collected on waste lands in the Hyderabad Collectorate.

SECTION 3.—FREE GRANTS.

50. Timber, to the value of Rs. 559-0-7, was given as free grants to poor agriculturists and villagers living in and near the forests, against Rs. 1,653-12-0 worth given the year before.

Section 4.—Summary of Produce.

51. The following is a statement of the timber worked out by departmental agency :—

Name of Division.	Timber—C. ft.		Posts—No.		Rafters—No.	
	1888-89.	1889-90.	1888-89.	1889-90.	1888-89.	1889-90.
Sukkur	6,721	4,881	6,927	13,753	26,827	26,613
Naushahro	1,422	2,353	829	552	37,843	8,121
Hyderabad	8,150	17,251	5,726	2,232	1,68,166	1,11,920
Jerruck	8,089	10,935	1,627	300	1,913	1,020
Total	24,382	35,420	15,109	16,837	2,34,749	1,47,674

52. The quantity of timber removed by purchasers is as under :—

Name of Division.	Timber—C. ft.		Posts—No.		Rafters—No.	
	1888-89.	1889-90.	1888-89.	1889-90.	1888-89.	1889-90.
Sukkur	6,434	4,291	1,579	393	1,10,852	45,905
Naushahro	2,223	4,624	200	643	8,167	15,916
Hyderabad	5,932	4,372	4,302	841	15,495	8,935
Jerruck	2,171	705	909	1,111	1,762	10,790
Total	16,760	13,992	6,990	2,988	1,36,276	81,546

53. The total yield in timber of each description is given below :—

Name of Division.	Timber—C. ft.		Posts—No.		Rafters—No.	
	1888-89.	1889-90.	1888-89.	1889-90.	1888-89.	1889-90.
Sukkur	13,155	9,172	8,506	14,146	1,37,679	72,518
Naushahro	3,645	6,977	1,029	1,195	46,010	24,037
Hyderabad	14,082	21,623	10,028	3,073	1,83,661	1,20,855
Jerruck	10,260	11,640	2,536	1,411	3,675	11,810
Total	41,142	49,412	22,099	19,825	3,71,025	2,29,220

54. The total yield in firewood of each Division is as under :—

Name of Division.	Firewood—Mds.	
	1888-89.	1889-90.
Sukkur	7,43,008	14,32,838
Naushahro	1,60,255	5,32,341
Hyderabad	3,05,813	5,41,425
Jerruck	2,11,590	1,72,958
Total	14,20,666	27,19,562

55. The total yield in charcoal is as follows :—

Name of Division.	Charcoal—Mds.	
	1888-89.	1889-90.
Sukkur	2,167	1,573
Naushahro	4,408	5,124
Hyderabad	3,962	2,143
Jerruck	31,941	33,596
Total	42,478	42,436

56. The total yield in timber, firewood and charcoal is given below :—

Timber	1888-89	C. ft.	41,142
	1889-90	„	49,412
Posts	1888-89	No.	22,099
	1889-90	„	19,825
Rafters	1888-89	„	3,71,025
	1889-90	„	2,29,220
Sleepers	1888-89	„	4,002
	1889-90	„	1,310
Firewood	1888-89	Mds.	14,20,666
	1889-90	„	27,19,562
Charcoal	1888-89	„	42,478
	1889-90	„	42,436

57. The realizations from the sale of farms to collect minor produce are given in the following statement :—

Name of Division.	Babul Pods.		Lac.		Munj & Sar Grass.		Fishery.	
	1888-89.	1889-90.	1888-89.	1889-90.	1888-89.	1889-90.	1888-89.	1889-90.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Sukkur	455	365	...	...	681	662	1,933	1,349
Naushahro	3,518	3,415	...	...	503	520	779	793
Hyderabad	9,555	10,967	778	840	...	79	503	663
Jerruck	3,630	3,937	...	...	...	...	277	1,011
Total	17,158	18,684	778	840	1,184	1,261	3,492	3,816

There are two points to be noticed here—one is the increase from babul pods due to the crop being an unusually good one, and the other is the right of fishing in the Jerruck Division, due mainly to the acquisition of katchas in the Tatta Taluka.

58. The present arrangement for the disposal of babul bark is as follows:—The share contractor connected with the Hyderabad depôt has agreed to prepare 5,000 maunds yearly and sell it at the depôt by auction or retail sale, his share being nine annas and-a-half in the rupee of the gross receipts. This is satisfactory, inasmuch as the net profit to Government is Rs. 20-5-0 per 100 maunds.

59. The revenue from grazing fees was as under:—

Name of Division.	Grazing fees.	
	1888-89.	1889-90.
	Rs.	Rs.
Sukkur	17,656	16,017
Naushahro	8,875	9,256
Hyderabad	16,379	17,064
Jerruck	14,270	14,854
Total	57,180	57,191

60. The area under cereal cultivation and the amount realized by assessment is as under:—

Name of Division.	Area under cultivation.				Amount realized by assessment.			
	Kharif.		Rabi.		Kharif.		Rabi.	
	1888-89.	1889-90.	1888-89.	1889-90.	1888-89.	1889-90.	1888-89.	1889-90.
	Acres.	Acres.	Acres.	Acres.	Rs.	Rs.	Rs.	Rs.
Sukkur	950	735	2,760	3,031	2,200	1,714	9,855	11,321
Naushahro	679	942	3,556	3,312	1,847	2,549	9,323	9,264
Hyderabad	571	519	805	792	1,448	1,381	1,973	1,739
Jerruck	513	556	320	68	1,924	1,908	665	120
Total	2,713	2,752	7,441	7,203	7,419	7,552	21,816	22,444

The practice of giving land for cultivation within forest limits has so long existed, and the present prosperous condition of the forests depends so much on the assistance willingly given by the zamindars who enjoy the privilege, that the practice cannot be put an end to without disastrous effects, great hardship to the zamindars, and with the certainty of rendering a friendly population into a hostile one, but steps are being taken to limit the area, and during the year no new land has been given out for cultivation.

Section 5.—Export of Forest Produce.

61. Four hundred and seventy-seven babul logs were exported to Bombay for the use of the Gun Carriage Factory.

CHAPTER V.

Financial Results.

62. The total receipts and expenditure during the last two years are as follows:—

	Actuals, 1888-89.	Actuals, 1889-90.	Increase.	Decrease.
Receipts .....Rs.	4,15,867	6,26,762	2,10,895	...
Expenditure A. Conservancy & Works „	1,85,884	3,11,423	1,25,539	...
Do. B. Establishment ..... „	1,00,227	98,036	...	2,191
Total .....Rs.	2,86,111	4,09,459	1,23,348	...
Net Revenue ... „	1,29,756	2,17,303	87,547	...

The net revenue of the year is the largest that has ever been obtained in the Sind Circle. Firewood and charcoal, chiefly supplied to the Railway, &c., are the main items, and during the year under report from these sources the department realized Rs. 4,20,381, at the cost of Rs, 2,80,435, the net profit being Rs. 1,39,946. This is most satisfactory. There has been, however, a further reduction in expenditure under B. Establishment of Rs. 2,191. Since the year 1886-87 there has been a reduction under this head of Rs. 15,577, which is, I consider, very doubtful policy, when there has been a very large increase in area, income and expenditure.

General Remarks.

63. Colonel McRae has left the following note on record:—

"I inspected the greater part of the reserves in Upper and Central Sind, but had not time to go down to Lower Sind. The forests I inspected were in a splendid state of preservation, and the evidence of careful protection left very little to be desired. The state of some of the inland reserves is very unsatisfactory for want of water, but this is beyond the control of this department, as the canal power in the district is insufficient to spare water for the irrigation of reserves. This is a question that requires very careful study and representation to Government in the public interests."

"The want of irrigation does not only retard the growth of trees but causes an absence of grazing for cattle, and I think the latter is quite as important a consideration as the former, both as regards the comfort and well-being of the people and the forest revenue from grazing fees."

"I inspected the books and records of all the Divisional Offices and found them in a satisfactory condition."

"The Divisional Forest Officers have done their duty with zeal and efficiency, and the conduct of the subordinate establishment has been satisfactory."

64. Mr. Permanand, Accountant, and Mr. Lilaram, Head Clerk in the Conservator's Office, continue to deserve the praise recorded by Colonel McRae in last year's report.

W. S. HEXTON,

Acting Conservator of Forests, Sind Circle.

ANNUAL FORM No. 49.

Division.	Civil District or Territory.	Name of Forest.	Area on 1st April 1889. Acres.	Area on 1st April 1889. Equivalent in square miles.	Added during the year. Acres.
Sukkur	Shikarpur.	Raoti	8,129	13	...
		Jamshero	6,616	10	...
		Daresh	1,725	3	...
		Ubauro	3,150	5	...
		Mirpur	7,251	11	...
		Raharki	1,654	3	...
		Reti	2,388	4	...
		Rangu	972	2	...
		Narli	1,376	2	...
		Sarhad	3,529	6	...
		Islam	2,064	3	...
		Jehanpur	4,340	7	...
		Bahab	8,985	14	...
		Budh	1,217	2	...
		Sadhuja	13,642	21	...
		Shahpur	11,215	18	...
		Pahwari	587	1	...
		Hussenbeli	3,407	5	...
		Azizpur	880	1	...
		Ding	1,543	2	...
		Syedpur	8,216	13	...
		Rohri	22,551	35	...
		Kote Shahu	...	...	...
		Sultanpur	1,753	3	...
		Saliani	5,014	8	...
		Ghotki	4,200	7	...
		Adilpur	12,674	20	2
		Walu Mahar	2,648	4	...
		Samowah	2,252	4	...
		Vasir	1,417	2	...
		Jarwar	2,839	4	...
		Abad	5,604	9	...
		Kadirdini Bindi	2,306	4	...
		Khia Bindi	3,118	5	...
		Shah	13,433	21	...
		Bindi Dhareja	6,954	11	...
		Kadrapur	2,564	4	...
		Mohro Mari	11,857	19	...
		Audaldal	12,193	19	...
		Bagarji	13,920	22	...
		Raiswah	905	1	...
		Lakhi	3,614	6	...
		Ghari Halim	2,096	3	...
		Kote Sultan	17,342	27	...
	Upper Sind Frontier.	Abad	1,127	2	...
		Mehrabpur	1,457	2	...
		Dilawarpur	1,439	2	...
		Milkiat Sircar	930	1	993
		Lakapur	8,359	13	1,480
		Dilmurad	1,104	2	37
		Zangipur	5,359	8	...
		Sarki	3,706	6	67
		Beluchabad	1,100	2	...
		Korar	887	1	...
		Mirpur	6,978	11	...
		Jangan	2,291	4	...
		Karampur	6,060	9	...
		Sadhuja	...	...	6,001
		Total	2,84,937	447	8,580
Naushahro	Shikarpur.	Dosu	4,033	6	...
		Keti Ubhuro	5,575	9	...
		Kanuri	3,630	6	...
		Sharifpur	1,027	2	...
		Bahman	1,547	2	...
		Naoabad	2,205	3	...
		Phati Bilawal	711	1	...
		Amroti	11,684	18	...
		Muso	5,930	9	...
		Kasimshah	2,107	3	...
		Nari	1,522	2	...
		Magsi	1,483	2	...
		Dangar	3,685	6	...
		Soi	5,108	8	...
		Budo Dero	1,555	2	...
		Ghangharko	5,849	9	...
		Gaji Dero	4,333	7	...
		Garhi Yasin	25,328	40	...
	Hyderabad.	Bhour	10,539	16	...
		Mohbatdero	8,045	13	...
		Samtia	3,390	5	...
		Kamaldero	1,365	2	...
		Bhorti	10,790	17	...
		Dalipota	867	1	...
		Khairodero	13,073	20	...
		Lalia	4,192	7	...
		Carried over	1,39,573	216	...

No. 49.

SIND CIRCLE.—AREA OF RESERVED FORESTS, 1889-90.

Excluded or transferred to other heads.	Area on 31st March 1890.		No. and date of Notification of addition or transfer.	Remarks.
Acres.	Acres.	Equivalent in square miles.		
...	1,39,573	216		
...	8,129	13		
...	6,616	10		
...	1,725	3		
...	3,150	5		
...	7,251	11		
...	1,654	3		
...	2,388	4		
...	972	2		
...	1,376	2		
...	3,529	6		
...	2,064	3		
...	4,340	7		
...	8,985	14		
...	1,217	2		
6,001	7,641	12	4362 of 20th June 1889.	Transferred to Upper Sind Frontier District.
...	11,215	18		
...	587	1		
...	3,407	5		
...	880	1		
...	1,543	2		
...	8,216	13		
...	22,551	35		
...	...	...	.....	Washed away by the river.
...	1,753	3		
...	5,014	8		
...	4,200	7		
...	12,676	20	3181 of 30th April 1889.	
...	2,648	4		
...	2,252	4		
...	1,417	2		
...	2,839	4		
...	5,604	9		
...	2,306	4		
...	3,118	5		
...	13,433	21		
88	6,866	10	7263 of 27th Sept. 1889.	
...	2,564	4		
...	11,857	19		
...	12,193	19		
...	13,920	22		
...	905	1		
...	3,614	6		
...	2,096	3		
...	17,342	27		
142	985	2	.....	Rectification of area as ascertained by actual measurement by the Survey Settlement, *Vide* Deputy Commissioner, Upper Sind Frontier District's letter No. 3727 of 7th Oct. 1889.
466	991	2		
514	925	1		
...	1,923	3		
...	9,839	15		
...	1,141	2		
25	5,334	8		
...	3,773	6		
335	765	1		
12	875	1	.....	*Vide* remark against Forests in the Upper Sind Frontier District.
...	6,978	11		
...	2,291	4	.....	Area according to this form..... 2,84,937
290	5,750	9	7672 of 11th October 1889.	Add result of the annual estimates of loss and gain by action of the river during the past four years 7,508
...	6,001	9	4362 of 20th June 1889.	
7,873	2,85,644	448		Total shown in statement for 1888-89.. 2,92,445
...	4,033	6		
...	5,575	9		
...	3,630	6		
...	1,027	2		
...	1,547	2		
...	2,205	3		
...	711	1		
...	11,684	18		
...	5,930	9		
...	2,107	3		
...	1,522	2		
...	1,483	2		
...	3,685	6		
...	5,108	8		
...	1,555	2		
...	5,849	9		
...	4,333	7		
...	25,328	40		
...	10,539	16		
...	8,045	13		
...	3,390	5		
...	1,365	2		
...	10,790	17		
...	867	1		
...	13,073	20		
...	4,192	7		
...	1,39,573	216		

ANNUAL FORM

FOREST DEPARTMENT, BOMBAY,

Division.	Civil District or Territory.		Name of Forest.	Area on 1st April 1889. Acres.	Area on 1st April 1889. Equivalent in square miles.	Added during the year. Acres.
			Brought over ...	1,39,573	216	...
Naushahro—*Contd.*		Karachi.	Karampur	2,924	5	...
			Baghban	1,947	3	...
			Shan	1,138	2	...
			Chaka	2,207	3	...
			Kalubori	748	1	...
			Pipri	925	1	...
			Total ...	1,49,462	231	...
Hyderabad	Hyderabad	Hyderabad.	Lakhat	6,380	10	...
			Nasri	1,556	2	...
			Mad	2,642	4	...
			Mehrabpur	3,338	5	...
			Mari	14,753	23	...
			Pai	5,130	8	...
			Keti Jurio	2,125	3	...
			Rano	1,627	3	...
			Nurketi	3,418	5	643
			Kacho Nurketi	...	...	...
			Bhanote	841	1	...
			Khanote	8,666	14	...
			Khebrani	766	1	...
			Sekhat	2,067	3	...
			Jakhri	1,926	3	...
			Matiari	5,354	8	...
			Ghali	3,041	5	...
			Miani	4,917	8	...
			Kathri	756	1	...
			Gandi	2,150	3	...
			Muhammad Khan	181	...	...
			Jam Shoro	292	...	...
			Shah Makai	411	1	...
			Keti Mehrani	5,523	9	...
		Karachi.	Gidarji	855	1	...
			Butto	7,748	12	...
			Manjhand	1,539	2	...
			Unarpur	10,705	17	...
			Ghag	1,296	2	...
			Karokho	1,701	3	...
			Total ...	1,01,698	157	643
Jerruck		Karachi.	Viran	9,142	14	...
			Sonda	2,114	3	...
			Hilaya	2,898	5	...
			Lalang	5,151	8	...
			Shah Lanko	1,690	3	...
			Garko	4,079	6	...
			Kacho Shahlanko	...	...	313
			Do. Ali Gunj	...	...	715
			Do. Bavo Purandas	...	...	6,413
			Do. Bijora	...	...	5,890
			Do. Chach	...	...	3,362
			Malir	24	...	...
			Kacho Alibahar	3,000	5	...
			Do. Surjani	3,410	5	...
			Do. Kote Almo	2,335	4	...
			Penah	6,169	10	...
			Susati	39	...	...
			Khirsar	1,380	2	...
			Huderani	5,511	9	...
			Surjani	1,364	2	...
			Janj	2,228	3	...
			Hazari	2,483	4	...
			Makbulo	496	1	...
			Laikpur	7,406	12	...
			Khadi	4,500	7	...
			Phatah	258	...	...
			Dulchand	5,454	9	...
		Hyderabad.	Jusri	420	1	...
			Khatro	416	1	...
			Khathar	2,975	5	...
			Katiar	952	1	...
			Khirdahi	290	...	...
			Tikhur	1,709	3	...
			Khokhar	1,556	2	...
			Bud-ka-Takar	975	2	...
			Total ...	80,424	117	16,693
			Grand Total ...	6,16,521	952	25,916

Conservator's Office,
Hyderabad, 10th September 1890.

No. 49.

SIND CIRCLE.—AREA OF RESERVED FORESTS, 1889-90.

Excluded or transferred to other heads.	Area on 31st March 1890.		No. and date of Notification of addition or transfer.	Remarks.
Acres.	Acres.	Equivalent in square miles.		
...	1,39,573	216		
...	2,924	5		
...	1,947	3		Acres.
...	1,138	2		Area according to this form..... 1,49,462
...	2,207	3		Deduct result of the annual estimates
...	748	1		of loss and gain by action of the river
...	925	1		during the past four years 5,285
...	1,49,462	231		Total shown in statement for 1888-89.. 1,44,177
...	6,380	10		
...	1,556	2		
...	2,642	4		
...	3,333	5		
...	14,753	23		
...	5,130	8		
...	2,125	3		
...	1,627	3		
...	4,061	6	5442 of 29th July 1889.	
...	...	...	.....	Washed away by the river.
...	341	1		
...	8,666	14		
...	760	1		
...	2,067	3		
...	1,926	3		
...	5,354	8		
...	3,041	5		
...	4,917	8		
...	756	1		
...	2,150	3		
...	181	...		
...	292	...		
...	411	1		
...	5,523	9		
...	855	1		
...	7,748	12		
...	1,539	2		Acres.
...	10,705	17		Area according to this form..... 1,01,698
...	1,296	2		Add result of the annual estimates of
...	1,701	3		loss and gain by action of the river
				during the past four years 6,694
...	1,02,341	158		Total shown in statement for 1888-89.. 1,08,392
...	9,142	14		
...	2,114	3		
...	2,898	5		
...	5,151	8		
...	1,690	3		
...	4,079	6		
...	313	...		
...	715	1		
...	6,413	10	6326 of 27th Aug. 1889.	
...	5,890	9		
...	3,362	5		
...	24	...		
...	3,000	5		
...	3,410	5		
...	2,335	4		
...	6,169	10		
...	39	...		
...	1,380	2		
...	5,511	9		
...	1,364	2		
...	2,228	3		
...	2,483	4		
...	496	1		
...	7,406	12		
...	4,500	7		
...	258	...		
...	5,454	9		
...	420	1		
...	416	1		
...	2,975	5		
...	952	1		Acres.
...	290	...		Area according to this form..... 80,424
...	1,709	3		Deduct result of the annual estimates
...	1,556	2		of loss and gain by action of the river
...	975	2		during the past four years 2,180
...	97,117	142		Total shown in statement for 1888-89.. 78,244
...	6,34,564	979		

W. S. HEXTON,
Acting Conservator of Forests, Sind Circle.

ANNUAL FORM No. 49 A.

FOREST DEPARTMENT, BOMBAY, SIND CIRCLE.—AREA OF PROTECTED FORESTS, 1889-90.

Division or Range.	Civil District or Territory.	Name of Forest.	Area on the 1st April 1889.		Added during the year.	Excluded or transferred to other heads.	Area on the 1st March 1890.		No. and date of Notification of addition or transfer.	Remarks.
			Acres.	Equivalent in square miles.	Acres.	Acres.	Acres.	Equivalent in square miles.		
Sukkur	Upper Sind Frontier...	Macaulay	183	...	...	...	183	...		
		Dickinson	585	1	...	...	585	1		
		Total ...	768	1	...	...	768	1		
Jerruck	Karachi	Kacho Sonda	...	...	117	...	117	...	5726 of 7th Aug. 1889.	
		Total ...	768	1	117	...	885	1		

Conservator's Office,
Hyderabad, 10th September 1890.

W. S. HEXTON,
Acting Conservator of Forests, Sind Circle.

ANNUAL FORM No. 50.

FOREST DEPARTMENT, BOMBAY, SIND CIRCLE.—PROSECUTION OF BREACHES OF FOREST RULES DURING 1889-90.

Forest Division and Civil District.	Cases pending from 1888-89.	New Cases of the year.					Total cases.	Disposed of during the year.						Cases pending at close of the year.
		Injury to forests by fire.	Unauthorized felling or appropriation of wood and minor forest produce.	Grazing without permission or in tracts in which grazing is prohibited.	Other offences.	Total new cases of the year.		Convictions.		Acquittals.		Total.		
								Cases.	Persons.	Cases.	Persons.	Cases.	Persons.	
Upper Sind Frontier District.														
Sukkur Division	4	...	40	2	8	50	54	33	43	19	34	52	77	2
Shikarpur District.														
Sukkur Division	4	1	8	2	4	15	19	12	33	4	28	16	61	3
Naushahro „	...	...	7	1	1	9	9	6	14	2	4	8	18	1
Hyderabad District.														
Naushahro Division	...	...	3	...	...	3	3	1	1	1	3	2	4	1
Hyderabad „	...	...	7	...	5	12	12	7	12	5	26	12	38	...
Karachi District.														
Naushahro Division	...	...	4	...	...	4	4	4	4	...	...	4	4	...
Hyderabad „	...	...	1	...	1	2	2	1	1	...	...	1	1	1
Jerruck „	...	...	2	1	...	3	3	3	7	...	...	3	7	...
Total ...	8	1	72	6	19	98	106	67	115	31	95	98	210	8

Conservator's Office,
Hyderabad, 10th September 1890.

W. S. HEXTON,
Acting Conservator of Forests, Sind Circle.

FORM No. 51.

FOREST DEPARTMENT, SIND CIRCLE.

Area of Forest tracts protected from fire during the dry season of 1889, to accompany report for 1889-90.

Division.	Forest tracts.	Year in which commenced.	Area actually protected up to 15th June 1889.	During dry season.			Cost during the season.	Remarks.
				Area attempted to be protected.	Failure.	Area actually protected.		
			Acres.	Acres.	Acres.	Acres.		
Sukkur	Mirpur	Not known ...	43,022	47,237	15	47,222		
	Ghotki		26,025	26,032	18	26,014		
	Sadhuja		78,201	81,910	1,160	80,750		
	Abad		49,996	50,173	.....	50,173		
	Sukkur		26,505	27,063	2	27,061		
	Shikarpur	1887-88	23,955	23,957	.....	23,957		
	Jacobabad	1885-86	14,078	15,367	.....	15,367		
	Thul	1885-86	27.485	26,927	2	26,925		
Naushahro	Bakrani	Not known ...	17,856	18,103	.....	18,103		
	Kandiaro		18,765	18,765	3	18,762		
	Sehwan		185	310	10	300		
Hyderabad	Rano	Do.	10,319	16,720	200	10,520		
	Unarpur		12,588	13,050	.....	13,050		
	Miani		3,283	3,833	197	3,636		
	Kotri		2,000	500	.....	500		
Jerruck	Viran	Do.	3,068	3,885	56	3,829		
	Shahbandar		8,405	8,863	40	8,823		
	Mulchand		5,880	6,020	.....	6,020		
	Katiar		1,603	1,603	.....	1,603		
	Total ...	.....	3,73,219	3,84,318	1,703	3,82,615		

Conservator's Office,
Hyderabad, 10th September 1890.

W. S. HEXTON,
Acting Conservator of Forests, Sind Circle.

FORM No. 52.

AREA OF PLANTATIONS, 1889-90.

ANNUAL FORM No. 52.

FOREST DEPARTMENT, SIND CIRCLE.—AREA OF PLANTATIONS, 1889-90.

Division.	Name of Plantation.	Area in Acres.				Receipts of the year.	Charges of the year.	Remarks.
		On 1st April 1889.	Added during the year.	Excluded during the year.	Area on 31st March 1889.			
	Regular Plantations.							
Sukkur ...	Aliwahan Garden	20	...	...	20	12	84	
	Rahuja Nursery	10	...	...	10	202	491	
	Sadhuja Plantation	25	...	...	25	22	84	
	Shah do.	7	...	...	7	...	84	
Hyderabad ...	Devi-Devi Plantation	13	...	...	13	323	196	
	Bamboo do	13	...	...	13	...	96	
	Miani Bungalow, Mango and Monument Gardens ...	12	...	...	12	80	577	
Jerruck ...	Malir Nursery	24	...	...	24	20	99	
	Sonda do.	5	...	...	5	110	57	
	Total Regular Plantations ...	129	...	...	129	859	1,759	
	Cultural Operations.							
Sukkur ...	Abad	35	...	...	35	...	...	
	Bindi Dhareja	114	...	...	114	...	42	
	Shah	8	20	...	28	...	...	
	Mohro Mari	45	...	...	45	...	...	
	Khia Bindi	...	22	...	22	...	...	
	Rohri	45	...	...	45	...	...	
	Syedpur	8	...	...	8	...	...	
	Changni	2	...	...	2	...	...	
	Saliani	20	...	...	20	...	...	
	Sultanpur	10	...	...	10	...	...	
	Azizpur	20	...	...	20	...	...	
	Adilpur	35	4	...	39	...	76	
	Samowah	22	...	...	22	...	...	
	Dickinson	3	...	...	3	...	...	
	Total ...	367	46	...	413	...	118	
Naushahro ...	Bhour	24	850	...	874	...	...	
	Mohbatdero	800	...	800	...	...	...	800 acres opened to grazing.
	Bhorti	...	50	...	50	...	...	
	Kamaldero	...	100	...	100	...	...	
	Dalipota	125	...	...	125	...	...	
	Karampur	25	...	...	25	...	...	
	Phaka	145	105	...	250	...	9	

	Pipri	...	...	...	...	140	127	...	267	...	...
	Baghan	...	...	...	...	...	17	...	17	...	5
	Kalubori	...	...	...	...	...	20	...	20	...	...
	Bhan	...	...	...	...	68	32	...	100	...	5
	Sharifpur	...	...	...	...	45	...	...	45	...	5
	Amrote	...	...	...	...	60	...	...	60	...	...
	Gajidero	...	...	...	...	10	5	...	15	...	...
				Total	...	1,442	1,306	800	1,948	...	24
Hyderabad...	Mari	...	...	...	...	7	480	...	487	...	...
	Nurketi	...	...	...	...	340	80	...	420	...	...
	Mad...	...	...	...	...	166	160	...	326	...	...
	Rano	...	...	...	...	...	50	...	50	...	...
	Keti Jurio	...	...	...	...	...	160	...	160	...	...
	Mehrabpur	...	...	...	...	...	160	...	160	...	...
	Butto	...	...	...	...	1,475	480	...	1,955	...	...
	Manjhand	...	...	...	...	108	50	...	158	...	...
	Unarpur	...	...	...	...	665	480	...	1,145	...	...
	Khanote	...	...	...	...	...	25	...	25	...	...
	Matiari	...	...	...	...	320	...	...	320	...	...
	Miani	...	...	...	...	690	20	...	710	...	...
	Mahamad Khan...	...	...	...	...	181	...	...	181	...	...
	Kathri	...	...	...	...	...	50	...	50	...	...
	Shah Makai	...	...	...	...	43	...	...	43	...	...
	Jamshoro	...	...	...	...	23	...	...	23	...	...
				Total	...	4,018	2,195	...	6,213	...	...
Jerruck ...	Mulchand	...	...	...	...	232	30	...	262	...	...
	Khadi	...	...	...	...	...	40	...	43	...	...
	Penah	...	...	...	...	13	...	...	13	...	...
	Laikpur	...	...	...	...	277	...	...	277	...	...
	Viran	...	...	...	...	785	...	...	785	...	...
	Garko	...	...	...	...	598	...	10	508	...	...
	Shah Lonko	...	...	...	...	190	8	...	198	...	...
	Sonda	...	...	...	...	88	...	...	88	...	...
	Hilaya	...	...	...	...	197	...	...	197	...	...
	Tikhur	...	...	...	...	24	...	...	24	...	...
	Khathar	...	...	...	...	67	60	67	60	...	...
	Katiar	...	...	...	...	24	...	...	24	...	...
	Khatro	...	...	...	...	...	17	...	17	...	...
	Budka	...	...	...	...	82	25	...	107	...	...
	Lalang	...	...	...	...	15	...	...	15	...	...
				Total	...	2,592	180	77	2,695	...	...
	Total Cultural operations...				...	8,419	3,727	877	11,269	...	142
	Grand Total of Regular and Cultural Operations. .					8,548	3,727	877	11,398	859	1,901

10 Acres were opened to grazing.

67 Acres Do. do.

Conservator's Office,
Hyderabad, 10th September 1890.

W. S. HEXTON,
Acting Conservator of Forests, Sind Circle.

FORM No. 54.

FOREST DEPARTMENT, SIND CIRCLE.—OUTTURN OF TIMBER AND FIREWOOD DURING THE YEAR 1889-90.

Division.	Description of Material.	Outturn in Cubic feet.								Remarks.
		Selection fellings.	Clearance.	Thinnings.	Total.	Removed by				
						Government Agency.	Purchasers.	Free grant.	Right holders.	
Sukkur	Babul logs...	862	...	...	862	2,308	374	25	...	1,845 C. feet removed out of last year's outturn.
	Bahan „	4,443	...	...	4,443	2,241	2,402	150	...	359 Do. Do.
	Tali „	324	...	...	324	282	22	...	...	
	Bahan dasas	456	...	...	456	30	...	...	...	
	Babul „	71	...	...	71	20	...	...	...	
	Babul posts	55	...	...	55	20	35	...	...	
	Bahan „	2,281	...	...	2,281	8,507	146	7	...	6,379 Do. Do.
	Babul cart-axles	...	192	...	192	217	30	...	...	95 Do. Do.
	Tali pieces	7	...	...	7	...	...	...	...	
	Kandi logs	835	...	...	835	...	794	41	...	
	Jháu and Asri logs	854	...	...	854	...	699	155	...	
	Kandi and Jháu posts	63	...	...	63	...	63	...	...	
	Kandi rafters	323	...	...	323	...	323	...	...	
	Kirir rafters	...	2,822	...	2,822	...	2,822	...	...	
	Bahan „	14,874	...	...	14,874	12,177	1,149	232	...	
	Poplar bullies	913	...	...	913	913	...	...	...	
	Jháu rafters	...	20,254	...	20,254	...	18,619	1,635	...	
	Babul rafters	11	...	...	11	...	11	...	...	
	Locomotive fuel	...	46,71,738	...	46,71,738	48,03,590	62,200	...	...	1,94,052 Do. Do.
	Firewood	...	29,77,162	...	29,77,162	4,29,935	26,70,793	...	...	1,23,566 Do. Do.
	Charcoal	...	7,079	...	7,079	...	7,079	...	...	
	Total...	26,372	76,79,247	...	77,05,619	52,60,240	27,67,561	2,254	...	
Naushahro	Babul logs...	7,177	...	...	7,177	2,241	4,329	300	...	
	Bahan „	119	...	...	119	79	40	...	...	
	Ber „	75	...	...	75	...	75	...	...	
	Tali „	20	...	...	20	...	20	...	...	
	Kandi „	193	...	...	193	33	160	...	...	
	Babul posts	48	...	...	48	31	17	...	...	
	Bahan „	325	...	...	325	521	310	...	...	506 Do. Do.
	Bahan rafters	4,163	...	...	4,163	4,677	251	...	...	765 Do. Do.
	Bahan thin rafters	150	...	...	150	100	150	...	...	100 Do. Do.
	Kirir rafters	...	4,745	...	4,745	475	4,270	...	...	

	Jháu rafters	...	6,443	...	6,443	2,869	3,288	420	...	134	Do.	Do.
	Kandi pegs	...	58	...	58	...	58	...	...			
	Jháu bairs	...	21	...	21	...	21	...	...			
	Jháu posts	72	...	...	72	...	72	...	...			
	Firewood	...	5,57,928	...	5,57,928	1,16,741	4,35,969	...	...			
	Locomotive fuel	...	22,36,942	...	22,36,942	22,52,292	...	...	...	15,350	Do.	Do.
	Charcoal	...	23,058	...	23,058	18,347	4,711	...	...			
	Total...	12,342	28,29,195	...	28,41,537	23,98,406	4,53,741	720	...			
Hyderabad... ...	Babul logs...	17,525	...	...	17,525	12,141	4,263	324	...			
	Bahan logs.	504	...	...	504	203	59	...	...			
	Babul bolsters	50	...	...	50	97	...	...	...	47	Do.	Do.
	Babul sleepers	3,549	...	...	3,549	4,585	...	...	...	1,036	Do.	Do.
	Babul planks	10	...	...	10	4	...	...	...			
	Babul slabs	118	...	...	118	221	10	...	...	113	Do.	Do.
	Babul rafters	135	...	...	135	2	116	...	...			
	Babul posts	118	...	...	118	...	118	...	...			
	Bahan dasas	25	...	...	25	...	...	...	...			
	Bahan posts	1,581	...	...	1,581	1,384	403	...	...	206	Do.	Do.
	Bahan rafters	58,779	...	...	58,779	55,960	3,002	100	...	283	Do.	Do.
	Jháu rafters	1,975	...	...	1,975	...	1,250	25	...			
	Kirir knees	...	...	...	...	5	...	...	...	5	Do.	Do.
	Jháu bairs	36	...	...	36	...	36	...	...			
	Kirir rafters	100	...	...	100	...	100	...	...			
	Nim logs	40	...	...	40	...	40	...	...			
	Jar rafters...	100	...	...	100	...	...	100	...			
	Firewood	...	15,71,670	...	15,71,670	10,97,125	4,40,660	405	...			
	Charcoal	...	11,889	...	11,889	9,643	...	...	...			
	Locomotive fuel	...	19,00,298	...	19,00,298	17,67,723	...	...	...			
	Total...	84,645	34,83,857	...	35,68,502	29,49,093	4,50,057	954	...			
Jerruck	Babul logs...	12,089	...	...	12,089	10,935	705	368	...			
	Babul posts	...	689	...	689	...	689	...	...			
	Jháu posts	...	186	...	186	186	...	...	...			
	Babul bolsters	...	...	...	...	111	...	...	...	111	Do.	Do.
	Babul planks.	...	35	...	35	...	35	...	...			
	Jháu rafters	...	4,519	...	4,519	...	4,069	450	...			
	Kirir rafters	...	510	...	510	510	...	...	...			
	Jháu bairs	...	1	...	1	...	1	...	...			
	Babul rafters	...	1,326	...	1,326	...	1,326	...	...			
	Jháu brushwood	...	14	...	14	...	14	...	...			
	Firewood	...	8,79,201	...	8,79,201	7,64,728	35,019	...	...			
	Locomotive fuel	...	5,04,880	...	5,04,880	2,30,430	...	...	...			
	Charcoal	...	1,62,900	...	1,62,900	1,51,182	...	...	...			
	Total...	12,089	15,54,261	...	15,66,350	11,58,082	41,858	818	...			

Conservator's Office,
Hyderabad, 10th September 1890

W. S. HEXTON,
Acting Conservator of Forests, Sind Circle.

FORM No. 54. A.

FOREST DEPARTMENT, SIND CIRCLE.—OUTTURN OF TIMBER AND FIREWOOD DURING THE YEAR 1889 90.

Division.	Description of material.	Outturn in cubic feet.								Remarks.
		Selection fellings.	Clearance.	Thinnings.	Total.	Removed by				
						Government agency.	Purchasers.	Free grant.	Right holders.	
Sukkur	Babul logs...	107	...	...	107	...	107	...	...	
	Babul cart-axles	...	113	...	113	...	113	...	...	
	Jháu rafters	...	125	...	125	...	125	...	...	
	Firewood	...	2,113	...	2,113	...	2,113	...	...	
	Total...	107	2,351	...	2,458	...	2,458	...	...	

Conservator's Office,
Hyderabad, 10th September 1890.

W. S. HEXTON,
Acting Conservator of Forests, Sind Circle.

ANNUAL FORM No. 55.

FORM No. 55.

FOREST DEPARTMENT, SIND CIRCLE.—OUTTURN OF MINOR FOREST PRODUCE.

Division.	Description of produce.	Produce removed or utilized										Remarks.
		By Government agency.		By purchasers.		By free grant.		By right holders.		Total.		
		Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	
			Rs.		Rs.		Rs.		Rs.		Rs.	
Sukkur	Babul and Kandi pods	...	...	Contract.	365	...	...	...	...	Contract.	365	
	Munj and reed	...	...	,,	653	...	...	...	...	,,	653	
	Kanh grass	...	...	Bdls. 32	2	...	...	...	...	Bdls. 32	2	
	Reed grass	...	...	,, 112	9	...	...	...	...	,, 112	9	
	Dabh grass	...	...	Mds. 845	53	...	...	...	...	Mds. 845	53	
	Jháu brushwood	...	...	,, 5,786	303	Bdls. 102	6	...	...	,, 5,786 & Bdls. 102	309	
	Tooth brushes	...	...	Bdls. 2	1	...	...	...	...	Bdls. 2	1	
	Lotus	...	...	...	2	...	...	...	...	...	2	
	Potash	...	...	Contract.	61	...	...	...	...	Contract.	61	
	Branchwood	...	...	C. ft. 500	4	...	...	...	...	C. ft. 500	4	
	Compensation for damaging branches of trees	...	...	...	41	...	...	...	...	...	41	
	Til seed	...	...	...	2	...	...	...	...	...	2	
	Ber fruit	...	...	...	11	...	...	...	...	...	11	
	Babul seed	Mds. 23	13	...	...	...	...	...	...	Mds. 23	13	
	Fruit, &c.	...	367	...	...	...	...	...	...	...	367	
	Grazing fees	...	...	...	16,017	...	...	...	...	...	16,017	
	Total	23	380	...	17,524	...	6	...	...	...	17,910	
Naushahro	Babul pods	...	...	Contract.	3,415	...	...	...	...	Contract.	3,415	
	Sur grass	...	...	...	500	...	...	...	...	...	500	
	Do.	...	...	Bdls. 317	20	...	...	...	...	Bdls. 317	20	
	Ber fruit	...	...	Contract.	32	...	...	...	...	Contract.	32	
	Branches of trees	...	...	Compensation.	52	...	...	...	...	Compensation.	52	
	Babul bark	...	...	Mds. 8	1	...	...	...	...	Mds. 8	1	
	Jháu brushwood	Bdls. 200	16	Bdls. 1,152	72	...	...	...	...	Bdls. 1,352	88	
	Babul seed	Mds. 26	45	...	...	...	...	...	...	Mds. 26	45	
	Honey	...	...	Seers. 6	2	...	...	...	...	Seers. 6	2	
	Grazing fees	...	...	...	9,256	...	...	...	...	...	9,256	
	Total	...	61	...	13,350	...	...	...	...	...	13,411	

Hyderabad	Babul bark	...	...	Mds. 1,754	292	...	...	...	...	Mds. 1,754	292
	Tooth brushes	...	...	„ 314	119	...	...	...	...	„ 314	119
	Brushwood	...	...	Blds. 187	13	Bdls. 10	1	...	...	Blds. 197	14
	Kanh and Sur grass	...	...	„ 488	20	„ 32	2	...	...	„ 520	32
	Reed	...	...	„ 134	8	...	...	...	...	„ 134	8
	Bahan brushwood	...	...	„ 4	...	...	...	...	...	„ 4	...
	Compensation for damaging trees, &c.	...	...	...	186	...	...	...	...	Compensation.	186
	Kanh grass	...	...	Contract.	79	...	...	...	...	Contract.	79
	Kinro	...	...	„	32	...	...	...	...	„	32
	Babul pods	...	...	„	10,967	...	...	...	...	„	10,967
	Gum	...	...	„	20	...	...	...	...	„	20
	Mangoes	...	...	„	80	...	...	...	...	„	80
	Honey	...	...	„	40	...	...	...	...	„	40
	Lac	...	...	„	840	...	...	...	...	„	840
	Lac	...	...	Mds. 42	27	...	...	...	...	Mds. 42	27
	Babul seed	Mds. 26	15	...	...	...	...	...	...	„ 26	15
	Grazing fees	...	...	...	17,065	...	...	...	...	...	17,065
	Total	...	15	...	29,798	...	3	...	...	...	29,816
Jerruck	Jháu brushwood	...	...	Bdls. 28	2	...	...	...	...	Blds. 28	2
	Potash	...	...	Mds. 361	90	...	...	...	...	Mds. 361	90
	Fruit	...	...	Contract.	115	...	...	...	...	Contract.	115
	Babul bark	...	...	Mds. 375	75	...	...	...	...	Mds. 375	75
	Babul pods	...	...	Contract.	3,937	...	...	...	...	Contract.	3,937
	Reed	...	...	Blds. 322	20	...	...	...	...	Blds. 322	20
	Babul seed	Mds. 1	1	...	...	...	...	...	...	Mds. 1	1
	Compensation	...	...	...	13	...	...	...	...	...	13
	Grazing fees	...	...	...	14,854	...	...	...	...	...	14,854
	Total	...	1	...	19,106	...	...	...	...	...	19,107

Conservator's Office,
Hyderabad, 10th September 1890.

W. S. HEXTON,
Acting Conservator of Forests, Sind Circle.

ANNUAL FORM No. 56.

Forest Department, Sind Circle.

Account of Timber and other Produce cut or collected by Government agency and brought to Sale Depôts or sold locally during the Year 1889-90.

	Particulars.	No. or quantity.	Cubic feet.	Total of each head. No. or quantity.	Total of each head. Cubic feet.
	Balance at the commencement of the year.				
	Sale Depôts.				
Sukkur Division.	Babul logs	726	5,092		
	Bahan logs	418	3,832		
	Tali logs	6	32		
	Bahan and babul dasas	328	1,125		
	Babul posts	254	...		
	Bahan posts	11,869	...		
	Bahan rafters	6,097	...		
	Babul cart axles	146	...		
	Forest Depôts.			19,844	10,081
	Bahan rafters	20	...		
	Babul posts	10	...		
				30	...
	Sale Depôts.				
Maushahro Division.	Babul sleepers	28	...		
	Bahan posts	1,406	...		
	Bahan rafters	3,560	...		
	Jháu rafters	267	...		
	Bhan thin rafters	200	...		
				5,461	...
	Forest Depôt				
	Babul logs	30	165		
	Bahan rafters	130	...		
				160	165

Particulars.	No. or quantity.	Cubic feet.	Total of each head. No. or quantity.	Total of each head. Cubic feet.
TIMBER.				
Removed by Purchasers from Depôts.				
Babul logs				
Do.	2,112	23,390		
Bahan logs	1	...		
Tali logs ...	304	2,385		
Babul bolsters	14	244		
Babul planks	42	229		
Bahan and babul dasas	4	...		
Babul sleepers	16	50		
Babul cart axles	1,310	...		
Babul posts	434	...		
Bahan posts	32	...		
Bahan rafters	16,768	...		
Babul rafters	1,45,233	...		
Kirir rafters	4	...		
Jháu rafters	1,020	...		
Babul outer slabs	767	...		
Kirir knees	98	...		
	10	...		
			1,68,169	26,298
Sold Locally.				
Babul logs				
Babul pieces	461	3,774		
Bahan logs	40	...		
Kandi logs...	23	138		
	48	33		

Hyderabad Division.	*Sale Depôts.*						
	Babul logs	205	3,051				
	Bahan posts	1,582	...				
	Bahan rafters	50,766	...				
	Kirir rafters	1	...				
	Babul outer slabs	86	...				
	Babul logs	2	...				
	Babul bolsters	111	523				
	Babul sleepers	296	...				
	Kirir knees	50	...				
				53,099	3,574		
	Forest Depôts.						
	Babul logs	8	...				
	Babul outer slabs	158	...				
	Babul sleepers	4	...				
				170	...		
Jerruck Division.	*Sale Depôts.*						
	Babul logs	38	554				
				38	554		
	Forest Depôts.						
	Babul logs	317	3,794				
				317	3,794		
	Total Balance.....			79,119	18,168		

Sukkur Division.	Tali logs...	4	38				
	Babul posts	50	..				
	Bahan posts	25	...				
	Bahan rafters	535	...				
	Bahan bullies	1,825	...				
	Jháu rafters	4,970	...				
	Kirir rafters	950	...				
	Babul outer slabs	345	...				
	Jháu posts	300	...				
						9,576	3,983
	Used by Department.						
	Babul logs	1	6				
	Bahan rafters	60	...				
						61	6
	Converted in Sale Depôts.						
	Babul logs	26	201				
						26	201
	Transferred to other Depôts.						
	Babul lobsters	3	14				
						3	14
	Written off.						
	Babul planks	2	...				
						2	...
	BALANCE AT CLOSE OF THE YEAR.						
	Sale Depôts.						
	Babul logs	602	3,247				
	Bahan logs	391	3,473				
	Tali logs...	7	52				
	Bahan and babul dasas	473	1,602				
	Bahan rafters	8,751	...				
	Bahan posts	1,580	...				
	Babul posts	255	...				
	Babul cart axles	35	...				
	Tali pieces	13	...				
						12,107	8,374
	Forest Depôts.						
	Babul posts	10	...			10	...

Received from Forests in Sale Depôts.						
Babul logs	2,166	22,657				
Bahan logs	297	2,268				
Tali logs	15	264				
Bahan and babul dasas	186	527				
Babul sleepers	1,014	...				
Babul cart axles	323	...				
Babul posts	33	...				
Bahan posts	5,332	...				
Bahan rafters	1,45,782	...				
Jháu rafters	1,900	...				
Kirir rafters	1,020	...				
Babul outer slabs	12	...				
Tali pieces	13	...				
			1,58,093	25,716		
Received in Forest Depôts.						
Babul logs	508	4,051				
Babul pieces	47	...				
Bahan logs	23	138				
Kandi logs	48	33				
Tali logs	4	38				
Babul posts	50	...				
Bahan posts	25	...				
Bahan rafters	385	...				
Bahan bullies	1,825	...				
Jháu rafters	4,970	...				
Kirir rafters	950	...				
Babul outer slabs	187	...				
Jháu posts	300	...				
			9,322	4,260		

Naushahro Division.	*Sale Depôts.*					
	Babul sleepers	28	...			
	Bahan posts	591	...			
	Bahan rafters	2,161	...			
				2,780		
	Forest Depôts.					
	Babul logs	80	472			
				80	472	
Hyderabad Division.	*Sale Depôts.*					
	Babul logs	331	3,845			
	Babul logs	1	...			
	Bahan logs	20	242			
	Bahan dasas	25	...			
	Bahan posts	1,250	...			
	Bahan rafters	50,200	...			
	Jháu rafters	1,400	...			
	Kirir rafters	1	...			
	Babul outer slabs	17	...			
	Babul rafters	34	...			
	Babul planks	10	...			
	Babul bolsters	73	344			
	Kirir knees	40	...			
				53,402	4,431	
	Forest Depôts.					
	Babul sleepers	4	...			
	Babul logs	8	...			
	Babul pieces	7	...			
				19	...	

Received by conversion in Sale Depôts.						
Babul bolsters	4	50				
Babul planks	16	...				
Babul rafters	38	...				
Babul outer slabs	17	...				
			75	50	Jerruck Division.	Sale Depôts.
						Babul logs 68 665
						Forest Depôts.
Received by transfer from Sale Depôts.						Babul logs 314 3,764
Babul bolsters	3	14				
			3	14		
Total Timber.....			2,46,612	48,208		Total Timber..... ... ... 2,46,612 48,208
						68 665
						314 3,764

FIREWOOD AND CHARCOAL.

BALANCE AT COMMENCEMENT OF THE YEAR.

	Sale Depôts.							
Sukkur Division.	Firewood	Mds.	58,767	...	58,767	12,145		
	Locomotive fuel	C. ft.	...	12,145				
	Forest Depôts.							
	Firewood		13,402	2,46,220	13,402	2,46,220		
	Sale Depôts.							
Naushahro Division.	Firewood	Mds.	281	...	281	...		
	Forest Depôts.							
	Firewood	Mds.	4,127	...				
	Locomotive fuel	C. ft.	...	2,25,750				
	Babul seed	Mds.	35	...	4,162	2,25,750		
	Sale Depôts.							
Hyderabad Division.	Firewood	Mds.	33,921	...				
	Locomotive fuel	...	...	60,690				
	Babul seed	Mds.	55	...				
	Charcoal	„	179	...	34,155	60,690		
	Forest Depôts.							
	Firewood	Mds.	2,398	...	2,398	...		

FIREWOOD AND CHARCOAL.

	Removed by Purchasers from Sale Depôts.							
	Firewood	Mds.	2,29,467	...				
	Locomotive fuel	...	...	9,05,495				
	Charcoal...	Mds.	1,710	...				
	Bamboo...	Nos.	15	...				
	Babul seed	Mds.	56	...	2,31,248	9,05,495		
	Forest Depôts.							
	Firewood	Mds.	1,02,566	...				
	Locomotive fuel	...	...	82,87,145				
	Charcoal	Mds.	38,106	...				
	Babul seed	...	232	...				
	Jháu brushwood	...	200	...	1,41,104	82,87,145		
	WRITTEN OFF.							
	Sale Depôts.							
	Firewood...	Mds.	281	...	281	...		
	Transferred to Sale Depôts.							
	Firewood	Mds.	1,637	3,195	1,637	3,195		
	Used by Department.							
	Babul seed	Mds.	73	...	73	...		
	WRITTEN OFF.							
	Firewood	Mds.	531	...				
	Locomotive fuel	C. ft.	...	23,220	581	23,2		

Jerruck Division.	*Sale Depôts.*																		
	Firewood	...	...	...	Mds.	1,875	...												
								1,875	...										
	Forest Depôts.																		
	Firewood	...	...	...	Mds.	39,694	...												
	Locomotive fuel		...	...	...	...	1,31,245												
	Charcoal	...	...	...	Mds.	2,037	...												
	Babul seed	...	...	...	„	420	...												
								42,151	1,31,245										
				Total Balance...		...	...	1,57,191	6,76,050										
	Received from Forests in Sale Depôts.																		
	Firewood	...	...	...	Mds.	2,08,804	...												
	Locomotive fuel	...	...	...	C. ft.	...	8,49,706												
	Charcoal	...	...	...	Mds.	2,209	...												
	Babul seed	...	...	...	„	1	...												
	Bamboo	...	...	...	...	15	...												
								2,11,029	8,49,706										
	Received in Forest Depôts.																		
	Firewood	...	...	...	Mds.	1,14,713	...												
	Locomotive fuel	...	...	...	C. ft.	...	86,21,210												
	Charcoal	...	...	...	Mds.	40,710	...												
	Babul seeds	...	...	...	...	115	...												
	Jháu brushwood	...	...	...	Bundles.	200	...												
								1,55,738	86,21,210										
	Received by Conversion on Sale Depôts.																		
	Locomotive fuel	...	...	...	C. ft.	...	117												
								...	117										
				Total ..		...	...	5,23,958	1,01,47,083										

	BALANCE AT CLOSE OF THE YEAR.																		
Sukkur Division.	*Sale Depôts.*																		
	Firewood	...	...	...	Mds.	40,481	...												
	Locomotive fuel		...	...	C. ft.	...	15,443												
								40,481	15,443										
	Forest Depôts.																		
	Firewood	...	...	...	Mds.	11,745	...												
	Locomotive fuel		...	...	C. ft.	...	45,675												
								11,745	45,675										
	Sale Depôts		...	...		...	...	...	...										
Naushahro Division.	*Forest Depôts.*																		
	Firewood	...	...	...	Mds.	5,181	...												
	Locomotive	...	...	...	C. ft.	...	2,10,400												
	Babul seed	...	...	...	Mds.	25	...												
								5,206	2,10,400										
Hyderabad Division.	*Sale Depôts*																		
	Firewood	...	...	...	Mds.	32,169	...												
	Locomotive fuel		...	...	C. ft.	...	1,720												
	Charcoal	...	...	...	Mds.	678	...												
								32,847	1,720										
	Forest Depôts.																		
	Firewood	...	...	...	Mds.	5,200	1,93,265												
								5,200	1,93,265										
Jerruck Division.	*Sale Depôts.*																		
	Firewood	...	...	...	Mds.	1,250	...												
	Locomotive fuel		...	...	C. ft.	...	...												
								1,250	...										
	Forest Depôts.																		
	Firewood	...	...	...	Mds.	47,474	...												
	Locomotive fuel		...	...	C. ft.	...	4,61,525												
	Charcoal	...	...	...	Mds.	4,641	...												
	Babul seed	...	...	...	Mds.	240	...												
								52,355	4 61,525										
				Total.....		...	...	5,23,958	1,01,47,083										

Conservator's Office,
Hyderabad,
10th September 1890.

W. S. HEXTON,
Acting Conservator of Forests, Sind Circle.

FORM No. 57.

FOREST DEPARTMENT, SIND CIRCLE.

Abstract showing the value of timber and other produce at Sale Depôts for the year 1889-90.

	Description of timber and other produce.	On hand at commencement of the year.			On hand at close of the year.			Difference in value.	
		No.	Cubic feet.	Value.	No.	Cublic feet.	Value.	In favor of the year.	Against the year.
Sukkur Division.	*Sale Depôts.*								
	Babul logs	726	5,092	2,546	602	3,247	1,623	...	...
	Bahan logs	418	3,832	1,916	391	3,473	1,736	...	...
	Tali logs	6	32	7	7	52	26	...	...
	Bahan dasas	254	853	191	383	1,279	287	...	...
	Babul dasas	74	272	56	90	223	62	...	...
	Babul posts	254	...	81	255	...	82	...	...
	Bahan posts	11,869	...	4,748	1,580	...	505	...	...
	Bahan rafters	6,097	...	854	8,751	...	1,225	...	...
	Babul cart axles	146	...	37	35	...	9	...	...
	Tali pieces	...	...	...	13	...	3	...	...
	Total	19,844	10,081	10,436	12,107	8,374	5,558	...	4,878
	Forest Depôts.								
	Bahan rafters	20	...	2	...	...	...	...	...
	Babul posts	10	...	2	10	...	2	...	...
	Total	30	...	4	10	...	2	...	2
	Sale Depôts.								
	Firewood	58,767	...	10,578	40,481	...	7,286	...	...
	Locomotive fuel	...	12,145	638	...	15,443	810	...	...
	Total	58,767	12,145	11,216	40,481	15,443	8,096	...	3,120
	Forest Depôts.								
	Firewood	13,402	...	1,603	11,745	...	1,409	...	...
	Locomotive fuel	...	2,46,220	9,110	...	45,675	914	...	...
	Total	13,402	2,46,220	10,718	11,745	45,675	2,323	...	8,395
Naushahro Division.	*Sale Depôts.*								
	Babul sleepers	28	...	50	28	...	7	...	...
	Bahan posts	1,406	...	288	591	...	96	...	...
	Bahan rafters	3,560	...	362	2,161	...	219	...	...
	Bahan thin rafters	200	...	12	...	...	...	...	...
	Jháu rafters	267	...	9	...	...	...	...	...
	Total	5,461	...	661	2,780	...	322	...	339
	Forest Depôts.								
	Babul logs	30	165	25	80	472	80	...	...
	Bahan rafters	130	...	4	...	...	...	...	...
	Total	160	165	29	80	472	80	51	...
	Sale Depôts.								
	Firewood	281	...	51	...	...	...	...	51
	Forest Depôts.								
	Firewood	4,127	...	415	5,181	...	905	...	...
	Locomotive fuel	...	2,25,750	7,716	...	2,10,400	6,832	...	...
	Babul seed	35	...	52	25	...	25	...	...
	Total	4,162	2,25,750	8,183	5,206	2,10,400	7,762	...	421

	Description of timber and other produce.	On hand at commencement of the year.			On hand at close of the year.			Difference in value.	
		No.	Cubic feet.	Value.	No.	Cubic feet.	Value.	In favor of the year.	Against the year.
Hyderabad Division.	*Sale Depôts.*								
	Babul logs	205	3,051	1,525	331	3,845	1,922	...	....
	Babul logs	2	...	2	1	...	1	...	...
	Bahan logs	...	...	...	20	242	121	...	...
	Bahan posts	1,582	...	633	1,250	...	500	...	...
	Bahan rafters	50,766	...	5,584	50,200	...	5,522	...	...
	Bahan dasas	...	...	...	25	...	25	...	...
	Babul sleepers	296	...	888	...	...	...	...	...
	Babul slabs	86	...	21	17	...	4	...	...
	Babul planks	...	...	...	10	...	10	...	...
	Babul rafters	...	...	...	34	...	8	...	...
	Babul bolsters	111	523	523	73	344	344	...	...
	Kirir knees	50	...	3	40	...	3	...	...
	Kirir rafters	1	...	...	1	...	...	...	...
	Jháu rafters	...	...	...	1,400	...	70	...	...
	Total	53,099	3,574	9,179	53,402	4,431	8,530	...	649
	Forest Depôts.								
	Babul logs	8	...	6	8	...	6	...	...
	Babul sleepers	4	...	8	4	...	8	...	...
	Babul slabs	158	...	5	...	...	...	...	...
	Babul pieces	...	...	...	7	...	1	...	...
	Total	170	...	19	19	...	15	...	4
	Sale Depôts.								
	Firewood ....Mds.	33,921	...	6,106	32,169	...	5,790	...	...
	Locomotive fuel	...	60,690	2,367	...	1,720	67	...	...
	Charcoal	179	...	100	678	...	380	...	...
	Babul seed	55	...	27	...	...	...	...	...
	Total	34,155	60,690	8,600	32,847	1,720	6,237	...	2,363
	Forest Depôts.								
	Firewood	2,398	...	240	5,200	...	520	...	...
	Locomotive fuel	...	...	...	...	1,93,265	4,445	...	...
	Total	2,398	...	240	5,200	1,93,265	4,965	4,725	...
Jerruck Division.	*Sale Depôts.*								
	Babul logs	38	554	583	63	665	998	415	...
	Forest Depôts.								
	Babul logs	317	3,794	474	314	3,764	471	...	3
	Sale Depôts.								
	Firewood	1,875	...	337	1,250	...	225	...	112
	Forest Depôts.								
	Firewood	39,694	...	4,763	47,474	...	5,697	...	...
	Locomotive fuel	...	1,31,245	3,345	...	4,61,525	10,642	...	...
	Charcoal	2,037	...	733	4,641	...	1,671	...	...
	Babul seed	420	...	210	240	...	120	...	...
	Total firewood, &c...	42,151	1,31,245	9,051	52,355	4,61,525	18,130	9,079	...

Conservator's Office,
Hyderabad, 10th September 1890.

W. S. HEXTON,
Acting Conservator of Forests, Sind Circle.

ANNUAL FORM No. 58.

Forest Department, Bombay, Sind Circle.

Summary of Revenue and Expenditure of the different Divisions during the year 1889-90.

BUDGET HEADS.	Direction.	Hyderabad Division.	Jerruck Division.	Naushaharo Division.	Sukkur Division.	Total during 1889-90.
REVENUE.						
I. Timber and other Produce removed from the Forests by Government agency—						
a. Timber	...	26,840 13 9	11,914 8 5	1,650 3 3	9,606 14 3	50,012 7 8
b. Firewood and Charcoal	...	95,135 7 8	46,675 12 4	86,343 6 8	1,92,226 2 7	4,20,380 13 3
c. Bamboos	...	4 11 0	...	...	...	4 11 0
d. Sandalwood	...	...	...	...	...	...
e. Grass and other minor produce	...	14 10 0	1 0 0	61 0 9	380 3 1	456 13 10
II. Timber and other Produce removed from the Forests by Consumers or Purchasers—						
a. Timber	...	2,020 6 9	796 13 6	977 3 9	3,446 15 6	7,241 7 6
b. Firewood and Charcoal	...	4,162 3 9	444 0 5	4,558 11 1	25,990 4 1	35,155 3 4
c. Bamboos	...	...	...	...	...	...
d. Grazing and fodder Grass	...	17,064 9 0	14,853 11 0	9,255 12 0	16,017 2 5	57,191 2 5
e. Other minor produce	...	12,733 0 7	4,251 9 1	4,093 11 6	1,507 2 10	22,585 8 0
III. Confiscated, Drift and Waif Wood	...	...	...	...	35 14 0	35 14 0
IV. Revenue from Forests not managed by Government—						
a. Duty on Foreign Timber and other forest produce	...	...	...	...	...	...
b. Revenue from shared and private forests	...	...	...	...	...	...
V. Miscellaneous—						
a. Fines and forfeitures	...	...	...	1 8 0	15 0 0	16 8 0
b. Refunds	17 8 0	...	300 0 0	...	...	317 8 0
c. Other sources	...	4,464 8 3	3,016 5 5	12,803 3 7	13079 6 10	33,363 8 1
Total Revenue	17 8 0	1,62,440 6 9	82,253 12 2	1,19,744 12 7	2,62,305 1 7	6,26,761 9 1
EXPENDITURE.						
A. Conservancy and Works.						
I. Timber and other Produce removed from the Forests by Government agency—						
a. Timber	...	10,635 9 3	7,347 12 0	405 14 2	2,649 5 10	21,038 9 3
b. Firewood and Charcoal	...	57,177 10 11	31,981 8 2	57,479 2 8	1,33,796 13 6	2,80,435 3 3
c. Bamboos	...	...	...	...	...	...
d. Sandalwood	...	...	...	...	...	...
e. Grass and other minor produce	...	...	16 12 0	25 0 9	...	41 12 9
II. Timber and other Produce removed from the Forests by Consumers or Purchasers	...	5 0 0	6 6 0	132 10 6	2 4 0	146 4 6
III. Confiscated, Drift and Waif Wood	...	...	...	...	0 4 10	0 4 10
IV. Revenue from Forests not managed by Government—						
a. Duty on Foreign Timber and other forest produce	...	...	...	...	...	...
b. Revenue from shared and private forests	...	...	...	...	...	...
V. Rent of Leased Forests and Payments to Shareholders in Forests managed by Government	...	...	...	...	...	...
VI. Live Stock, Stores, Tools and Plant—						
a. Purchase of Cattle	...	100 0 0	...	...	...	100 0 0
b. Feed and keep of Cattle	...	49 11 0	...	...	115 7 0	165 2 0
c. Stores, Tools and Plant	...	91 12 6	3 0 0	1 0 0	37 8 6	133 5 0
VII. Communications and Buildings—						
a. Roads and Bridges	...	...	...	...	...	...
b. Buildings	...	67 14 6	4 0 0	83 3 9	114 1 2	269 3 5
c. Other Works	...	...	...	...	16 4 6	16 4 6
VIII. Demarcation, Improvement and Extension of Forests—						
a. Demarcation	...	...	...	293 11 0	4 5 3	298 0 3
b. Compensation for Land and Rights	...	...	...	...	...	...
c. Surveys and working Plans	...	247 0 0	1,819 4 3	601 1 0	1,144 6 6	3,811 11 9
d. Plantations	...	869 4 7	146 14 2	24 7 10	1,841 14 11	2,882 9 6
e. Protection from Fire	...	...	...	...	...	...
f. Other Works	...	801 7 9	320 13 0	692 7 2	238 10 11	2,053 6 10
IX. Miscellaneous—						
a. Refunds	...	...	...	...	...	...
b. Law Charges	...	...	...	...	...	...
c. Other Charges	...	5 0 0	19 9 6	...	6 4 0	30 13 6
Total A. Conservancy and Works	...	70,050 6 6	41,665 15 1	59,738 10 10	1,39,967 10 11	3,11,422 11 4
B. ESTABLISHMENTS.						
I. Salaries—						
a. Conservators	17,650 2 11	...	...	...	...	17,650 2 11
b. Superior Officers	...	2,100 0 0	4,250 0 0	2,195 2 7	5,179 13 6	13,725 0 1
c. Subordinate Forest and Depôt Establishments	...	8,859 0 10	5,918 7 2	7,623 15 2	15,571 10 0	37,973 1 2
d. Office Establishments	3,572 10 4	1,538 14 2	1,313 3 1	1,280 7 5	1,818 9 0	9,523 12 0
e. Deputation and Special Allowances	70 0 0	...	...	...	...	70 0 0
II. Travelling Allowances—						
a. Conservators	2,436 4 0	...	...	...	...	2,436 4 0
b. Superior Officers	...	1,200 0 0	1,589 8 0	1,209 5 1	1,826 14 6	5,825 11 7
c. Subordinate Forest and Depôt Establishments	...	807 2 4	561 10 5	625 9 1	1,132 9 3	3,126 15 1
d. Office Establishments	1,137 5 0	576 9 9	452 3 8	417 7 5	736 11 9	3,320 5 7
III. Contingencies—						
a. Stationery	2 6 9	77 15 0	62 11 1	90 7 6	194 2 0	427 10 4
b. Carriage of Tents and Records	202 14 0	132 14 9	153 9 8	133 2 9	60 9 0	683 2 2
c. Rents, Rates and Taxes	206 9 10	240 0 0	272 6 8	240 0 0	72 0 0	1,031 0 6
d. Pay of Police Guards	...	...	...	...	...	...
e. Official Postage	156 9 0	141 4 0	170 15 0	260 14 6	436 7 6	1,166 2 0
f. Sundries	283 4 11	185 7 1	242 8 9	206 3 8	154 2 3	1,076 10 8
Total B. Establishments	25,723 2 9	15,859 3 11	14,987 3 6	14,282 11 2	27,183 8 9	98,035 14 1
Grand Total of Expenditure	25,723 2 9	85,909 10 5	56,653 2 7	74,021 6 0	1,67,151 3 8	4,09,458 9 5

No. F. / 14832.

Forwarded to the Conservator of Forests, Sind Circle, under Section 238 of the Forest Code.

Bombay,
12th August 1890.

R. LOGAN,
Accountant General, Bombay.

FORM No. 59.

FOREST DEPARTMENT, BOMBAY, SIND CIRCLE.—ACCOUNT CURRENT FOR THE YEAR 1889-90.

To Cash Balance			69 11 10	By Refunds and Drawbacks—			
„ VIII—Assessed Taxes—Income tax			995 7 2	„ Refunds Divided Heads, Forests			13 0 0
„ IX—Forests			6,26,761 9 1	„ 11 Forests			4,09,458 9 5
„ XXII.—Receipts-in-aid of superannuation			1,873 9 9	„ 19 Law and Justice—			
„ Subscription to the Military Fund			3,479 8 6	Jails—			
„ Revenue Deposits, Forests—				District Jails—			
Advances Recoverable—				Contingencies, Miscellaneous Office expenses			641 9 2
„ Forest advances	1,56,100 3 1			„ Revenue Deposits			1,888 8 9
„ Objection book advances	450 0 0			„ Advances Recoverable—			
„ Tentage advances	300 0 0	1,56,850 3 1		Forest advances	1,57,144 2 9		
„ Cash recoveries		15 5 4		Tentage advances	500 0 0		
„ Cheques and Bills, Departmental Cheques—				Objection book advances	450 0 0	1,58,094 2 9	
Forests		4,13,355 8 1		„ Cash Recoveries		15 5 4	
Forest Remittances—				„ Cheques and Bills—			
Remittances to Treasuries—				(Departmental Cheques)—			
„ Inter-Divisional Transfers	11,884 3 7			„ Forest		2,003 14 1	
„ Inter-Departmental Transfers	90 3 0			„ 26 Scientific and other Minor Departments—			
		11,974 6 7		Experimental Farm, Farming charges		180 0 0	
Account between India and Bombay—				Forest Remittances—			
III.—Items adjustable, Bengal W. F. Pension Fund		86 5 0		Remittances to Treasuries	2,70,624 4 11		
Account between Bombay, and P. W. D., Bombay (Ordinary Branches)—				Inter-Divisional Transfers	11,814 3 7		
IV.—Items adjustable by P. W. D.		75 0 0		Inter-Departmental Transfers		2,82,438 8 6	
Account between Bombay and P. W. D., (Railway Branches)—				Account between Bombay and Millitary Bombay—			
IV.—Items adjustable by P. W. D., (N.-W. Railway)		944 0 0		IV.—Items adjustable by Millitary Miscellaneous		19,516 8 2	
XIX.—Education—				Account between Bombay and P. W. D., Ordinary Branches—			
Miscellaneous (Local)—				IV.—Items adjustable by P. W. D., Inter Departmental charges		540 5 11	
„ Sale proceeds of books		13 0 0		Account between Bombay and P. W. D., (Railway Branches)—			
				IV.—Items adjustable by P. W. D., (N.-W. Railway)		3,40,917 8 3	
				„ 3 Land Revenue—			
				Charges of District Administration—			
				General Establishment—			
				Salaries—			
				Assistant Collector	145 2 7		
				Allowances—			
				Travelling and Tentage allowance to Officers	36 8 11		
				„ 19 Law and Justice—			
				Criminal Courts—			
				Assistant Collector and Magistrate	145 2 7		
				Allowances—			
				Travelling and Tentage allowance	36 8 11		
						363 7 0	
				Account between Bombay and Telegraph—Miscellaneous—		62 13 0	
				Account between Central Provinces and Bombay—			
				III.—Items adjustable by Central Provinces—			
				Advances Recoverable		300 0 0	
				Cash Balances		59 6 1	
Grand Total Rs.		12,16,493 10 5		Grand Total Rs.		12,16,493 10 5	

No. F. / 14829.

Forwarded to the Conservator of Forests, Sind Circle, under Section 238 of the Forest Code.

Accountant General's Office,
Bombay, 12th August 1890.

R. LOGAN,
Accountant General, Bombay.

ANNUAL FORM No. 60.

FOREST DEPARTMENT, BOMBAY, SIND CIRCLE—REVENUE RECEIVED AND OUTSTANDINGS ON ACCOUNT OF REVENUE DURING 1889-90.

Division.	Particulars.	Outstandings at commencement of year.	Value of Sales and other Revenue during year.	Total.	Amount realized during year.	Balance due to the Department at end of year.	Remarks.
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
Sukkur	I.—Timber and other produce removed from the forests by Government agency—						
	(a) Timber	.....	9,606 14 3	9,606 14 3	9,606 14 3	.....	
	(b) Firewood and charcoal	.....	1,92,296 14 7	1,92,296 14 7	1,92,226 2 7	70 12 0	The outstandings under V. C. at the end of the year amount to Rs. 44-11-0.
	(e) Grass and other minor produce	.....	380 3 1	380 3 1	380 3 1	.....	
	II.—Timber and other produce removed from the forests by consumers or purchasers—						
	(a) Timber	.....	3,446 15 6	3,446 15 6	3,446 15 6	.....	
	(b) Firewood and charcoal	.....	26,036 14 9	26,036 14 9	25,990 4 1	46 10 8	
	(d) Grazing and fodder grass	.....	16,017 2 5	16,017 2 5	16,017 2 5	.....	
	(e) Other minor produce	.....	1,507 2 10	1,507 2 10	1,507 2 10	.....	
	III.—Confiscated, drift and waif wood	.....	35 14 0	35 14 0	35 14 0	.....	
	Total...	.....	2,49,328 1 5	2,49,328 1 5	2,49,210 10 9	117 6 8	
Naushahro	I.—Timber and other produce removed from the forests by Government agency—						
	(a) Timber	.....	1,650 3 3	1,650 3 3	1,650 3 3	.....	
	(b) Firewood and charcoal	12 0 0	86,331 6 8	86,343 6 8	86,343 6 8	.....	The outstandings under V. C. at the end of the year amount to Rs. 66-2-10.
	(e) Grass and other minor produce	.....	61 0 9	61 0 9	61 0 9	.....	
	II.—Timber and other produce removed from the forests by consumers or purchasers—						
	(a) Timber	.....	977 3 9	977 3 9	977 3 9	.....	
	(b) Firewood and charcoal	.....	4,558 11 1	4,558 11 1	4,558 11 1	.....	
	(d) Grazing and fodder grass	.....	9,255 12 0	9,255 12 0	9,255 12 0	.....	
	(e) Other minor produce	.....	4,093 11 6	4,093 11 6	4,093 11 6	.....	
	III.—Confiscated, drift and waif wood	.....	.....	.....	.....	.....	
	Total...	12 0 0	1,06,928 1 0	1,06,940 1 0	1,06,940 1 0	.....	

Hyderabad	I.—Timber and other produce removed from the forests by Government agency—						
	(a) Timber	342 3 1	26,498 10 8	26,840 13 9	26,840 13 9	.....	
	(b) Firewood and charcoal	1,452 5 0	94,313 2 8	95,765 7 8	95,135 7 8	630 0 0	
	(c) Bamboos	.....	4 11 0	4 11 0	4 11 0	.....	
	(e) Grass and other minor produce	.....	14 10 0	14 10 0	14 10 0	.....	
	II.—Timber and other produce removed from the forests by consumers or purchasers—						
	(a) Timber	262 2 3	1,921 3 5	2,183 5 8	2,020 6 9	.....	
	(b) Firewood and charcoal	1 10 0	4,160 9 9	4,162 3 9	*162 14 11 4,162 3 9	.....	* Written off vide G. R. No. 4291 of 14th June 1889.
	(d) Grazing and fodder grass	.....	17,064 9 0	17,064 9 0	17,064 9 0	.....	
	(e) Other minor produce	.....	12,733 0 7	12,733 0 7	12,733 0 7	.....	
	Total...	2,058 4 4	1,56,710 9 1	1,58,768 13 5	1,58,138 13 5	630 0 0	
Jerruck	I.—Timber and other produce removed from the forests by Government agency—						
	(a) Timber	141 10 8	16,755 8 11	16,897 3 7	11,914 8 5	4,982 11 2	
	(b) Firewood and charcoal	6,221 5 10	45,458 10 8	51,680 0 6	46,675 12 4	5,004 4 2	
	(e) Grass and other minor produce	.....	1 0 0	1 0 0	1 0 0	.....	
	II.—Timber and other produce removed from the forests by consumers or purchasers—						
	(a) Timber	.....	796 13 6	796 13 6	796 13 6	.....	
	(b) Firewood and charcoal	.....	444 0 5	444 0 5	444 0 5	.....	
	(d) Grazing and fodder grass	3 4 0	14,853 11 0	14,856 15 0	14,853 11 0	3 4 0	
	(e) Other minor produce	75 0 0	4,176 9 1	4,251 9 1	4,251 9 1	.....	
	Total...	6,441 4 6	82,486 5 7	88,927 10 1	78,937 6 9	9,990 3 4	
Total Sind Circle.	I.—Timber and other produce removed from the forests by Government agency—						
	(a) Timber	483 13 9	54,511 5 1	54,995 2 10	50,012 7 8	4,982 11 2	The outstanding under V. C. at the end of the year amount to Rs. 110-13-10.
	(b) Firewood and charcoal	7,685 10 10	4,18,400 2 7	4,26,085 13 5	4,20,380 13 3	5,702 0 2	
	(c) Bamboos	.....	4 11 0	4 11 0	4 11 0	.....	
	(e) Grass and other minor produce	.....	456 13 10	456 13 10	456 13 10	.....	
	II.—Timber and other produce removed from the forests by consumers or purchasers—						
	(a) Timber	262 2 3	7,142 4 2	7,404 6 5	7,241 7 6	.....	
	(b) Firewood and charcoal	1 10 0	35,200 4 0	35,201 14 0	*162 14 11 35,155 3 4	46 10 8	* Written off vide G. R. No. 4291 of 14th June 1889.
	(d) Grazing and fodder grass	3 4 0	57,191 2 5	57,194 6 5	57,191 2 5	3 4 0	
	(e) Other minor produce	75 0 0	22,510 8 0	22,585 8 0	22,585 8 0	.....	
	III.—Confiscated, drift and waif wood	.....	35 14 0	35 14 0	35 14 0	.....	
	Grand Total...	8,511 8 10	5,95,453 1 1	6,03,964 9 11	5,93,226 15 11	10,737 10 0	

Conservator's Office,
Hyderabad, 10th September 1890.

W. S. HEXTON,
Acting Conservator of Forests, Sind Circle.

FORM No. 61.

FOREST DEPARTMENT, BOMBAY, SIND CIRCLE.

Outstandings and Liabilities on account of Contractors and Disbursers for 1889-90.

Divisions.	Department Debtor.			Department Creditor.			Balance due		Remarks.
	At commencement of year.	Recoveries in cash and value of supplies and work done during the year.	At close of year.	At commencement of year.	Payments made during the year.	At close of year.	To Department (outstandings.)	To Department (Liabilities.)	
Contractors.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
Hyderabad	.....	1,000 0 0	1,000 0 0	1,000 0 0	.....	1,000 0 0	.....	.....	
Jerruck	.....	13,551 0 0	13,551 0 0	7,458 0 0	15,553 0 0	23,011 0 0	9,460 0 0	.....	
Naushahro	.....	.....	.....	.....	.....	.....	.....	.....	
Sukkur	.....	5,033 8 0	5,033 8 0	110 2 0	5,000 0 0	5,110 2 0	76 10 0	.....	
Total Contractors...	.....	19,584 8 0	19,584 8 0	8,568 2 0	20,553 0 0	29,121 2 0	9,536 10 0	.....	
Disbursers.									
Hyderabad	.....	51,568 4 8	51,568 4 8	6,833 9 11	46,650 0 0	53,483 9 11	1,915 5 3	.....	
Jerruck	.....	24,431 6 4	24,431 6 4	206 0 0	24,796 11 10	25,002 11 10	571 5 6	.....	
Naushahro	.....	39,802 11 9	39,802 11 9	.....	44,783 3 5	44,783 3 5	5,451 7 3	470 15 7	
Sukkur	.....	20,713 4 4	20,713 4 4	2,070 0 3	20,361 3 6	22,431 3 9	1,717 15 5	.....	
Total Disbursers...	.....	1,36,515 11 1	1,36,515 11 1	9,109 10 2	1,36,591 2 9	1,45,700 12 11	9,656 1 5	470 15 7	
Grand Total...	.....	1,56,100 3 1	1,56,100 3 1	17,677 12 2	1,57,144 2 9	1,74,821 14 11	19,192 11 5	470 15 7	

No. $\frac{\text{F.}}{14843.}$

Forwarded to the Conservator of Forests, Sind Circle, under Section 238 of the Forest Department Code.

Accountant General's Office,
Bombay, 12th August 1890.

R. LOGAN,
Accountant General, Bombay.

ANNUAL FORM No. 62.

Forest Department, Sind Circle.

Financial results of the year 1889-90.

Division.	Timber and other produce removed from the Forests by Government Agency.		Other revenue.		Formation, protection and improvement of Forests.	Total.		Remarks.
	Receipts.	Charges.	Receipts.	Charges.	Charges.	Receipts.	Charges.	
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
Sukkur	2,02,213	1,49,215	60,097	12,701	16,000	2,62,310	1,77,916	
Naushahro	88,066	64,337	31,683	6,559	8,040	1,19,749	78,936	
Hyderabad	1,21,996	75,477	40,448	7,553	9,547	1,62,444	92,577	
Jerruck	58,591	45,468	23,667	6,150	8,411	82,258	60,029	
Total... ...	4,70,866	3,34,497	1,55,895	32,963	41,998	6,26,761	4,09,458	

Conservator's Office,
Hyderabad, 10th September 1890.

W. S. HEXTON,
Acting Conservator of Forests, Sind Circle.

Statement showing the progress of Forest Demarcation and Settlement Works in the Sind Circle for 1889-90.

Class of Forest.	At the commencement of the year. Area under Section 34 in which private rights have not been enquired into, settled and recorded.	Area settled during the year under		Area of reserved Forests alienated under Section 26.	Area of protected Forests disforested under Government orders.	At the end of the year. Areas under Section 34 in which private rights have not been enquired into, settled and recorded.
		Chapter II of the Act.	Chapter IV of the Act.			
	Square miles.	Square miles.	Square miles.	Square miles.	Square miles.	Square miles.
Reserved Forests						
Protected Forests						

Conservator's Office,
Hyderabad, 10th September 1890.

W. S. HEXTON,
Acting Conservator of Forests, Sind Circle.

No. 3385 OF 1890.

REVENUE DEPARTMENT.

COMMISSIONER'S OFFICE,

Karachi, 29th September 1890.

Submitted to Government.

2. The area under reserved forests in Sind at the close of the year was 991 square miles, 324 acres, as compared with 963 square miles, 201 acres, in the previous year. The increase of 28 square miles, 123 acres, is due partly to the establishment of new reserves, and partly to the gain which resulted from the action of the river on the forests on its banks. Mr. Hexton expresses the opinion that during the last twenty years the loss caused by the action of the river has far exceeded the gain, but this opinion is not borne out by the figures given in the reports of the Department for previous years.

3. A moment's consideration will show that the theory advanced by the Forest Officers that when the river has been notified as one of the boundaries of a river-side forest, the flowing stream of the river must under all circumstances be the boundary, is impracticable. It would often result in hundreds of acres of occupied land and whole villages being thrown into reserved forests by a sudden change in the course of the stream, and it is evident that the functions usually discharged by a Forest Demarcation Officer cannot safely be delegated to so capricious a river as the Indus. If the principles laid down in the instructions lately issued by the Commissioner, for the decision of claims to alluvial accretions made by the Forest Department are adhered to, and the rules are worked with judgment and discretion, there will be no further cause for complaint on either side.

4. The remark made in paras. 7 and 8 of the report regarding the necessity for the acquisition of new reserves near the river bank should be read in conjunction with the observations contained in para. 31 on the subject of the deterioration of the reserves recently acquired at a distance from the river. From facts which have recently been brought to his notice, the Commissioner has no doubt that a most unfortunate mistake has been made in selecting for permanent reserves, land on which there was, at the time, a good growth of jungle, owing its existence to the flood-water from the Indus, which formerly flowed over the face of the country. But since the exclusion of the floods, these lands have been deprived of their water-supply and when once the original growth has been removed, they become useless for forest purposes, since reproduction is impossible. The Commissioner considers that the Conservator should now be instructed to take measures for the disforestment of the useless reserves, and to select in compensation tracts on which the growth of permanent jungle is possible.

5. Steps will be taken for the preservation of the lands selected in the Thar and Parkar District, alluded to in para. 9 of the report, as soon as the construction of the Hyderabad-Umarkot Railway has been sanctioned.

6. The remarks made by Mr. Hexton in para. 15 regarding the insufficiency of the present establishment have the full concurrence of the Commissioner. One Assistant Conservator was withdrawn from Sind on the recommendation of the Conservator, but a very short experience was sufficient to show that the step was ill-advised, and in January last Colonel McRae asked that his proposal might be reconsidered. But in Government Resolution No. 1717, of the 4th March 1890, Government stated that another officer of the controlling staff could not then be spared for service in the

Sind Circle. The Commissioner trusts, however, that at least one other officer will be deputed to Sind at the earliest opportunity. It is most undesirable that Mr. Tuljaram Nihalchand, an officer who is declared by the Conservator to be unfit for the post, should be allowed to continue to hold charge of a division.

7. The number of Forest offences dealt with by the Magistrates fell from 105 to 98, while the number of convictions increased from 92 to 97. There was a noteworthy decrease in the number of petty offences dealt with departmentally, which in the previous year reached a total of 5,809, as compared with 4,383 in the year under report. The decrease is under the heads of "Illicit grazing" and "Compensation cases," and may be attributed to the circumstance that owing to the high inundation there was good grazing throughout the country, and therefore less temptation to trespass in the reserved forests.

8. It is satisfactory to note that the number of forest fires was only 59 as against 94 in the previous year, and while 7,275 acres were burnt in 1888-89, the area affected in 1889-90 was only 1,703 acres. Almost all the fires occurred, as usual, in the Sukkur Division.

9. The improvement in the sales at the Sukkur depôt is mainly due to the reduction in the rates sanctioned by Government Resolution No. 3490, of the 11th May 1889. From information furnished by the Conservator to the Commissioner, it appeared that, should the competition of foreign timber require it, still further reductions might be made while preserving a fair margin of profit. The reduced rates have therefore been continued.

10. The most noteworthy feature of the working of the Department during the year is the very large increase in the quantity of fuel supplied to the North-Western Railway, under the agreement the terms of which were stated in para. 11 of the Commissioner's review of the report for 1888-89. The amount of fuel taken was 18,16,614 maunds, as against 3,72,476 maunds in the previous year. On the other hand the amount of fuel supplied to other public departments fell from 3,12,348 maunds to 2,01,910 maunds, the decrease being mainly due to less fuel having been taken for ferry steamers, but no explanation has been given in the report of the falling off in the demand under this head.

11. The financial results of the year as compared with those of 1888-89 are shown in the following table :—

		1888-89.	1889-90.	Increase.
Receipts	Rs.	4,15,867	6,26,762	2,10,895
Expenditure.....	„	2,86,111	4,09,459	1,23,348
Net Revenue ...	„	1,29,756	2,17,303	87,547

Thus there has been an increase of Rs. 2,10,895 in the gross, and of Rs. 87,547 in the net revenue. The increase in the receipts is almost entirely due to the increase in the demand for locomotive fuel, which has also caused an increase in the expenditure, on account of the cost of cutting and removing the wood. Establishment charges have been reduced by Rs. 2,191, but the Commissioner agrees with the Conservator that the strength of the controlling establishment is at present dangerously low and that reduction in this direction is false economy. The net revenue is the largest ever derived from the Sind forests.

12. The work of the Department was carried on by Colonel McRae with his usual ability, and the excellent arrangements made to meet the sudden increase in the demand for fuel for the North-Western Railway were creditable to all the officers of the Department.

A. C. TREVOR,

Acting Commissioner in Sind.

No. 1899.

REVENUE DEPARTMENT.

Bombay Castle, 13th March 1891.

Letter from the Conservator of Forests, Sind Circle, No. 846, dated 10th September 1890—Forwarding the Forest Administration Report of the Sind Circle for the year 1889-90, with its subsidiary statements.

Memorandum from the Commissioner in Sind, No. 3385, dated 29th September 1890—Submitting the above with his remarks.

Letter from the Conservator of Forests, S. C., No. 3100 A., dated 18th October 1890—Submitting the Forest Administration Report of the Southern Circle for the year 1889-90, with its subsidiary statements.

Memorandum from the Commissioner, S. D., No. 4477, dated 19th November 1890—Submitting the above with his remarks.

Letter from the Conservator of Forests, N. C., No. 3886, dated 31st October 1890—Submitting the Forest Administration Report of the Northern Circle for the year 1889-90, with its subsidiary statements.

Memorandum from the Commissioner, N. D., No. 5287, dated 19th December 1890.
Letter from the Commissioner, C. D., No. $\frac{R}{5855}$, dated 23rd December 1890.
} Submitting their remarks on the Forest Administration Report of the Northern Circle.

RESOLUTION.—The changes that have occurred in forest area during the year 1889-90 are shown in the following statement :—

Circle.	AREA ON 1ST APRIL 1889.		ADDED.		EXCLUDED.		AREA ON 31ST MARCH 1890.		TOTAL.
	Reserved.	Protected.	Reserved.	Protected.	Reserved.	Protected.	Reserved.	Protected.	
	Sq. m.	Sq. m.	Sq. m.	Sq. m.	Sq. m.	Sq. m.	Sq. m.	Sq. m.	Sq. m.
Northern Circle	$7,446\frac{145}{640}$	$1,047\frac{123}{640}$	$218\frac{284}{640}$	$35\frac{417}{640}$	$135\frac{279}{640}$	$11\frac{93}{640}$	$7,529\frac{150}{640}$	$1,071\frac{447}{640}$	$8,600\frac{597}{640}$
Southern Circle	$1,819\frac{11}{320}$	$3,411\frac{4}{5}$	$\frac{19}{80}$	..	$\frac{7}{12,800}$	$\frac{49}{320}$	$1,819\frac{175}{640}$	$3,411\frac{413}{640}$	$5,230\frac{588}{640}$
Sind Circle	*$963\frac{201}{640}$	$1\frac{1}{5}$	$40\frac{316}{640}$	$\frac{117}{640}$	$12\frac{193}{640}$	..	$991\frac{324}{640}$	$1\frac{245}{640}$	$992\frac{569}{640}$
Total ..	$10,228\frac{23}{40}$	$4,460\frac{123}{640}$	$259\frac{7}{40}$	$35\frac{534}{640}$	$147\frac{472}{640}$	$11\frac{191}{640}$	$10,340\frac{9}{640}$	$4,484\frac{93}{128}$	$14,824\frac{474}{640}$

* The figure given in the last year's report is $973\frac{538}{640}$ square miles.

The changes in the Southern Circle call for no remark. The increase in area in the Northern Circle is mainly due, as explained in the report, to corrections of book entries of areas in Thána, Násik and Sátára. The real increase in area has been $42\frac{539}{640}$ square miles in the case of reserved forest, while there has been no real increase in the area of protected forest. In the Sind Circle the area of reserved forest added during the year amounts to about 28 square miles, part of this increase being due to formation of new reserves and part to gain from the action of the river. The area of protected forest remained practically the same.

2. Government concurs with the remark of the Commissioner in Sind that the theory of the Forest officers regarding alluvial accretions is impracticable. The instructions which are said to have been lately issued for the decisions of claims of this nature by the Forest Department should however be submitted to Government, and the Commissioner should also be requested to state whether he can arrange for a revision of the forest survey as suggested by the Conservator to ascertain the actual effects on forest area of the action of the Indus since the former survey was made in 1868. Government also concurs with the Commissioner in thinking that steps should be taken as soon as possible to disforest the useless reserves referred to in paragraph 32 of the Conservator's report and to select new reserves from area available on the river.

3. The progress made in the settlement of land notified under Section 34 of the Forest Act is shown in the following table :—

Circle.	Class of Forests.	At the commencement of the year areas under Section 34 in which private rights have not been enquired into, settled, or recorded.	Areas settled during the year.		Area of Reserved Forests alienated under Section 26.	Area of Protected Forests disforested under Government orders.	At the end of the year areas under Section 34 in which private rights have not been inquired into, settled or recorded.	Remarks.
			Under Chapter II of the Forest Act.	Under Chapter IV of the Forest Act.				
		Sq. m.	Sq. m.	Sq. m.	Sq. m.	Sq. m.	Sq. m.	
Northern Circle.	Reserved	1,352	403	...	5	...	860*	* 84 square miles of reserved forest in Násik were erroneously entered by the Divisional Forest Officer, Násik, in his last year's report and are therefore omitted this year.
	Protected	620	53	...	...	...	567	
Southern Circle.	Reserved	$509\frac{221}{640}$†	...	...	...	...	$509\frac{221}{640}$	† The area as given in the report of the last year is $530\frac{94}{640}$ square miles.
	Protected	$2,635\frac{171}{640}$	$56\frac{553}{640}$	$81\frac{380}{640}$	...	$\frac{98}{640}$	$2,496\frac{420}{640}$	
Sind ...	...	...	...	...	...	..	...	
Total ...	Reserved	$1,861\frac{221}{640}$	403	...	5	...	$1,369\frac{221}{640}$	
	Protected	$3,255\frac{171}{640}$	$109\frac{553}{640}$	$81\frac{380}{640}$	...	$\frac{98}{640}$	$3,063\frac{420}{640}$	

4. The work of settlement which proceeds *pari passu* with that of selection of lands for notification under Sections 4 and 28 of the Act has shown satisfactory progress in the Northern Circle. The reports for the Váda and Máhim Tálukás of the Thána District said to have been completed by Mr. Owen should be expedited. In the Southern Circle, on the other hand, and especially in Kánara, much still remains to be done. The Conservator's proposal for expediting the work by assigning the selection and settlement to the Divisional Forest Officers and Assistant Collectors, respectively, instead of to a special Demarcation Officer, has already been negatived after full consideration in Government Resolution No. 8151 of the 18th November 1890. Having regard, however, to the heavy arrears of settlement and demarcation work in Kánara and the time that it will take to complete it, if left to a single Demarcation Officer, Government, as already stated, hopes to be able to spare the services of an Assistant Collector shortly to relieve Mr. Wingate of a portion of his present duties.

With reference to Mr. James's remarks on Chapter I, paragraphs 18 to 25, of Mr. Shuttleworth's report, it may be observed that the figures of area for Thána to which he alludes represent only the area notified under Sections 4 and 28 of the Act and do not include the unsettled area notified in 1879 under Section 34.

5. The reduction in the cost per mile of the forest survey in the Southern Circle is satisfactory, while the increased cost in the Northern Circle is said to be due to the inclusion in the accounts of the year under report of certain charges in arrears from the preceding year. From the table appended to paragraph 52 of Mr. Shuttleworth's report it appears that the average cost of the 16″ survey was only Rs. 71, while that of the 8″ and 4″ was respectively Rs. 188 and Rs. 133. Mr. Shuttleworth should be asked to state if the figures showing the cost of the 16″ survey are correct. Government is fully aware of the advantages of the 8″ maps where working plans are required, and has already sanctioned their preparation wherever shown to be necessary.

6. The progress made in the preparation of working plans in Kánara is disappointing and should be specially inquired into by the Conservator. The question of constructing a tramway between Haliyál and Shiroli is under the consideration of Government and will receive early attention.

7. In paragraphs 57 to 70 Mr. Shuttleworth gives an interesting account of the system of working plans arranged for the Thána District. That there has been mismanagement in past years owing to irregular exploitation of particular tracts and inadequate measures for securing reproduction may be safely admitted. But the evidence as to overworking and depletion in the sense that more has been taken from the forests than the annual legitimate yield cannot, in the absence of all record as to the actual volume removed under cover of

privileges for local supply, be accepted as conclusive. Had the depletion in past years been anything like so serious as Mr. Shuttleworth describes it to have been in paragraph 59, the Thána forests would not now be the "mine of wealth" he elsewhere declares them to be, and the revenue derived from them would not now be expanding, as he justly claims it to be, "by leaps and bounds." The satisfactory results now being obtained under systematic working seem to His Excellency the Governor in Council to show not so much that the Thána forests have been overworked in the past, as that they are now for the first time only beginning to be worked up to their full capabilities.

8. Government agrees with Mr. Shuttleworth in thinking that the local circumstances of the Konkan make it necessary that the unit of working area should be comparatively small, and that the annual fellings should be numerous and widely distributed. The importance of decentralizing forest labour is obvious in a tract where the local demand for forest produce for domestic and agricultural purposes is exceptionally large, and where so large a proportion of the population depends mainly for its subsistence on the wages earned by felling, carrying and distributing such produce. Forest blocks as well as compartments must also, as Mr. Shuttleworth observes in paragraph 112, be of small size, so that the open portions of forest available for grazing may be within convenient distance of the different forest villages. The success of the system now under trial for supplying cultivators with loppings for ash manure from the annual coupes also clearly depends as much on the number and situation of the coupes as on the actual quantity of such material made available. Government, as will be seen from paragraph 13 of Government Resolution No. 650 of the 26th January 1891, concurs with Mr. James's remarks on paragraph 147 of Mr. Shuttleworth's report as to the necessity of cutting compartments when due, and expects that the Revenue officers will in future cordially co-operate in inducing the cultivators to utilize the ráb material obtainable from the fellings to the fullest possible extent consistent with the due protection of the coupes. The conservation of the young growth in the coupes is a matter of serious importance, and the measures adopted to secure the object in view should, as suggested by Mr. James, be specially noted in future reports.

9. The alleged insufficiency of the present controlling establishment in Sind is a matter for which the Conservator himself is mainly responsible. Government will, however, in view of the Commissioner's recommendation, take steps as soon as possible to place the services of another Assistant at the Conservator's disposal.

10. The following table shows the number of prosecutions for forest offences in 1889-90 as compared with the preceding year :—

Circle.	1888-89.		1889-90.		Percentage of failures.	
	Prosecutions.	Acquittals.	Prosecutions.	Acquittals.	1888-89.	1889-90.
Northern Circle ...	1,031	255	1,441	253	24·7	17·6
Southern Circle ...	129	31	138	37	24·	26·8
Sind Circle	105	42	98	31	40·	31·6
Total ...	1,265	328	1,677	321	25·92	19·14

There has been a satisfactory increase in the percentage of convictions for forest offences to cases tried in some districts, especially Thána and Khándesh in the Northern Circle, indicating greater care in instituting prosecutions. On the other hand, in Sátára in the Northern Circle and in the Southern Division of Kánara and Dhárwár in the Southern Circle the percentage of failures appears unduly high.

11. The large number of cases compounded in the Northern Circle, *viz.*, 6,485 in all, is satisfactory so far as it shows that a spirit of conciliation has actuated Forest officers in dealing with forest offenders. But the operation of

Section 67 of the Forest Act requires to be carefully watched, and any tendency to have recourse to this mode of settlement in doubtful cases where the evidence would be insufficient to secure convictions before Magistrates must be promptly repressed. "Reasonable suspicion" of the commission of a forest offence is essential in every case compounded under Section 67. The following table shows the number of cases compounded under Section 67 of the Forest Act and the amounts paid as compensation in 1888-89 and 1889-90 :—

Circle.	1888-89.		1889-90.	
	Cases.	Amount.	Cases.	Amount.
		Rs.		Rs.
Northern Circle	6,154	11,272	6,485	17,075
Southern Circle	599	2,271	674	2,794
Sind Circle	1,493	4,316	1,315	3,068
Total ...	8,246	17,859	8,474	22,937

The Commissioners should be requested to make a close investigation of the method and proceedings of the Forest officers empowered under Section 67 of the Forest Act, and to report the result to Government. Among other points, they should examine the following :—

1. By what officers is the actual inquiry made and recorded in these cases, and what is the exact nature of the procedure adopted ?

2. Are witnesses and accused brought in person before the officers empowered to adjudicate under Section 67, is the evidence of witnesses taken in presence of the accused, and are statements of witnesses and accused reduced to writing ?

3. By whom are fines awarded actually collected? Is money ever collected from accused by forest subordinates before orders for their collection have been passed by officers empowered under Section 67 ?

4. What is the nature of the supervision exercised over the proceedings of Forest officers under Section 67 ? To what officers do appeals against their decisions lie? Are monthly returns of cases disposed of submitted by the empowered officers ? If they are, in what form are they submitted and by whom are they scrutinized ?

In future administration reports the Conservators should report for each district the number of complaints disposed of under Section 67 of the Forest Act as well as the number of cases in which fines have been inflicted, also the number of appeals, if any, against decisions passed under Section 67 and the manner of their disposal. The reports should also show how many fines were inflicted amounting to one rupee, how many to two rupees, how many to three, and so on up to the maximum.

12. The number of cattle impounded in the Northern Circle, though slightly less than in the preceding year, reached the high figure of 197,366 and would seemingly have been much larger but for the comparative scarcity of pounds in North Thána. The number of cattle impounded in Ahmednagar and Poona is specially noticeable and is greatly to be regretted. It is hoped, however, that when the restrictions imposed by the new grazing rules are more fully understood and accepted, and the boundaries of closed areas are better known to those concerned, cases of cattle trespass will show a marked diminution.

13. When the open portions of a forest block are at an inconvenient distance from any village and the closed areas are conveniently near, there will always of course be a temptation to drive cattle into the latter. Wilful trespass of this kind must be prevented by all possible means. If the present pound fines are found not sufficiently high to be deterrent the question of raising them under the provisions of Section 70 of the Forest Act will be considered. But in any case the temptation should be removed as far as

possible by taking measures as early as possible in each season to clear away all grass from the closed coupes either by permitting the cultivators to remove it, under proper supervision, for rábi and fodder, or through the agency of contractors. This measure is also very necessary in connection with fire protection. Government is not able to agree entirely with Mr. Shuttleworth's views as regards cattle trespass as stated in paragraph 95. If the present grazing fees are, as Mr. Shuttleworth contends, "ridiculously low," there can obviously be little or no motive for unauthorized grazing in *open* forest areas. The number of cattle impounded for grazing without passes in open forest is not separately shown in the Administration Report. It is presumed, however, that such cases do occur. In future years full information on this subject should be given.

14. Fire protection in the Southern Circle, notwithstanding the comparatively large expenditure of Rs. 11,358, does not appear to have been very successful, and it is an unsatisfactory feature of the report that the conclusions drawn by the Conservator as to the success of the measures adopted in the different divisions are directly at variance with the returns furnished by the Divisional Officers. In North Kánara, for instance, where the protection is said by Mr. MacGregor to have been extremely good, the percentage of failures to area attempted is, according to the returns, considerably higher than in any other division in the Southern Circle. The inference to be drawn from the remark in paragraph 43 of Mr. MacGregor's report is that the subordinate officers from fear of blame or punishment for failure purposely furnish false returns showing more satisfactory results than are in reality obtained. This is a matter to which the Conservator should give close attention. In the Northern Circle the results of fire conservancy show a slight improvement as compared with the past year. This improvement, however, was accompanied by increased expenditure. As regards Sind the Conservator has given no information as to area attempted to be protected, but it is satisfactory to learn that the number of forest fires and the area burnt were considerably less than in the preceding year.

15. The area open for free grazing in North Thána has not been shown in the statement in paragraph 107 of Mr. Shuttleworth's report. This omission should be supplied. It is clear from the same statement, as Mr. James has pointed out, that the kurans of South Thána of which the grazing sold by auction realized only on the average 3 annas and 8 pies per acre are really not 'valuable' kurans within the meaning of paragraph 1 of Government Resolution No. 7467 of 15th September 1885. Nor, judging from the average per acre realized by the auctions, can the kurans of the other divisions in the circle—excepting perhaps North Thána—be considered sufficiently valuable to justify their being excepted from the rule directing the discontinuance of annual auctions. It is desirable that the question should be settled and Government approve of Mr. James's suggestion that the Collectors and Divisional Forest Officers should in consultation before the next grazing season fix the particular kurans which owing to the exceptional value of their fodder grass should continue to be sold by auction. It is very important also, as Mr. James observes, that the people should have full information as to the areas which are available for fee and free grazing. This object will, it is expected, be fully secured by the orders recently passed in Government Resolution No. 650 of the 26th January last.

16. Natural reproduction both by self-sown seed and coppice shoots appears to have been good in all the circles except in the case of some of the Sind reserves referred to above in paragraph 3, which do not now benefit from the inundation. Speaking generally, natural reproduction may be safely relied on for the preservation of the forests in tracts where the rainfall is sufficient, provided adequate measures are taken for protection from fire and for closure of recently felled compartments. The measures taken for artificial regeneration had, as usual, varying results, but appear to have been satisfactory on the whole.

17. Good progress has been made during the year in the construction of several Provincial roads in the Northern Circle which will greatly facilitate the transport and removal of timber. Much remains to be done before the full yield of the valuable forests of the Southern Circle can be profitably exploited. The opening of a new station at Devrái has, however, given a slight impetus to the

operations for supplying railway fuel. Government note with satisfaction that Mr. MacGregor has taken steps to prevent unfair working in future of the forest for railway fuel by exploiting tracts closer to the line than the average lead for the whole area.

18. Receipts from departmental fellings of timber show a considerable decrease in the Northern Circle owing chiefly to the abolition and restriction of these fellings in Thána in favour of sale of standing timber to contractors. The latter system, both for the supply of timber and firewood, is working very satisfactorily and appears on the whole to be more convenient to the people of the district than departmental distribution, as they get their supplies on credit or by barter instead of having to pay in cash. The wide distribution of the coupes and the increased quantity now thrown on the market ensure a brisk local trade and moderate prices. Care must be taken, however, as observed in paragraph 13 of Government Resolution No. 650 of 26th January 1891, that no compartments which ought to be felled in any year remain unfelled, and departmental operations must still be undertaken in respect of coupes which remain unsold to contractors.

19. The large increase in the quantity of fuel supplied to the North-Western Railway is, as the Commissioner remarks, the chief feature in the working of the Sind Circle during the year. The decrease in the demand by other public departments should, however, have been explained.

20. The number and value of the free grants of wood made in the Southern Circle has not been reported as it should have been. This omission should be supplied. In the other circles the value of wood so given shows a considerable decline as compared with the past year, but no explanation is given of the cause.

21. The receipts, expenditure and net revenue of the three forest circles during 1889-90 as compared with the preceding year are shown in the following statement :—

Circle.	Receipts.		Expenditure.		Net Revenue.	
	1888-89.	1889-90.	1888-89.	1889-90.	1888-89.	1889-90.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Northern Circle ...	11,60,769	11,85,540	7,27,412	7,05,357	4,33,357	4,80,183
Southern Circle ...	12,73,554	13,25,676	6,75,601	6,50,343	5,97,953	6,75,333
Sind Circle ...	4,15,867	6,26,762	2,86,111	4,09,459	1,29,756	2,17,303
Total ...	28,50,190	31,37,978	16,89,124	17,65,159	11,61,066	13,72,819

22. The financial results of the year are very satisfactory, showing a substantial increase in the net revenue of each circle and a total increase of over 2 lákhs.

23. In paragraph 130 of his report Mr. MacGregor has stated that the pepper and spice gardens of Kánara are being largely extended, and fears that, sooner or later, great pressure will be brought to bear on Government to allot fresh *betta* lands from the 'remnants' of the forests not already given up. Government will be glad to have more definite information as to this alleged extension of garden cultivation, and the Commissioner, S. D., should be requested to make special inquiries on the subject. The spread of such exceptionally high cultivation within due limits as provided for in paragraph 5 of Government Resolution No. 5652 of 13th August 1890 would not be a matter for regret, and considering that upwards of 90 per cent. of the entire area of the Kánara District is now included in forests, there ought to be little difficulty in providing, should it become necessary, for a considerably larger demand for rán than now exists in connection with these gardens. The extension of garden cultivation simply

means that for every additional acre of garden a few acres less of forests will be worked for high timber than would otherwise be the case. But the material wealth of the district will certainly not suffer by the change.

24. For the generally successful result of the year's administration, great credit is due to the Conservators and those working under them. Mr. Shuttleworth has in particular fully maintained his well-earned reputation for untiring zeal and industry in overcoming difficulties and securing improved efficiency throughout his circle. The same spirit has actuated the Divisional Forest Officers generally, and deserves cordial recognition. Messrs. Gleadow and Millett and other officers equally conspicuous for their loyal devotion to forestry will do well, however, to accept the valuable advice contained in the concluding paragraph of the Commissioner, N. D.'s review in the spirit in which it has been given.

G. W. VIDAL,
Acting Chief Secretary to Government.

To

The Commissioner in Sind, and the Commissioners of Divisions,
The Conservators of Forests, N., S. and Sind Circles,
All Collectors, including the Collectors and Deputy Commissioners in Sind,
The Survey and Settlement Commissioner,
The Director of Land Records and Agriculture,
The Accountant General.
} With copies of the report.

The Editors' Tables.
The Government of India,
The Secretary of State for India.
} By letter.

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